

IN THE SUPERIOR COURT OF THE STATE OF ARIZONA
 FOR THE COUNTY OF YAVAPAI

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SANDRA K. MARKHAM, CLERK
 BY: Jacqueline Harshman

STATE OF ARIZONA,)

Plaintiff,)

vs.)

JAMES ARTHUR RAY,)

Defendant.)

Case No. V1300CR201080049

REPORTER'S TRANSCRIPT OF PROCEEDINGS
 BEFORE THE HONORABLE WARREN R. DARROW

TRIAL DAY FIFTY-THREE

JUNE 9, 2011

Camp Verde, Arizona

ORIGINAL

REPORTED BY
 MINA G. HUNT
 AZ CR NO. 50619
 CA CSR NO. 8335

1 IN THE SUPERIOR COURT OF THE STATE OF ARIZONA
2 FOR THE COUNTY OF YAVAPAI
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4 STATE OF ARIZONA,)
5 Plaintiff,)
6 vs) Case No V1300CR201080049
7 JAMES ARTHUR RAY,)
8 Defendant)
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1 Proceedings had before the Honorable

2 WARREN R. DARROW, Judge, taken on Thursday, June 9,
3 2011, at Yavapai County Superior Court,
4 Division Pro Tem B, 2840 North Commonwealth Drive,
5 Camp Verde, Arizona, before Mina G. Hunt, Certified
6 Reporter within and for the State of Arizona.
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PROCEEDINGS

THE COURT: The record will show the presence of Mr. Ray, the attorneys, the jury.

And Dr. Paul has returned to the witness stand.

Mr. Hughes.

CROSS-EXAMINATION (Continued)

BY MR. HUGHES:

Q. Good morning, Doctor.

A. Good morning.

Q. I believe yesterday you testified that, in your opinion, the pinpoint pupils that were observed in some of the patients, particularly in the critically ill patients, was inconsistent with nonexertional heat stroke?

A. That was not my testimony yesterday. No.

Q. Can you explain what your testimony is on that subject.

A. So in this case the four critically ill patients all had pinpoint pupils. Pupils are not reliable in people who have died. But in the living patients, the critically ill patients, they all had pinpoint pupils. And what I said yesterday is that in heat stroke you can have small pupils, normal size pupils, or large pupils. The majority

of patients that present with heat stroke would either have normal size pupils or enlarged pupils.

The interesting thing about pinpoint pupils in cholinergic toxicity is it's the most common sign to be present. It's present in up to 80 or 85 percent of patients that have cholinergic toxicity. So that was my point yesterday is that it's much more indicative of cholinergic toxicity than it is heat stroke.

Q. So your testimony is the majority of patients that would present with heat stroke, or is it just nonexertional heat stroke, would have normal to large size pupils?

A. It's not differentiated. It's just heat stroke in general.

Q. And is that substantiated in these medical journals that you provided to Ms. Do, who provided to me in response to my request to you for the materials that you used in preparing your report?

A. Not that I'm aware of. No.

Q. In fact, in those materials is it correct that the material on heat stroke indicates that -- under the subsection of eyes, it says, the pupils may be fixed, dilated, pinpoint, or normal?

A. That's what it says. And that's what I've just testified to. Yes.

Q. Okay. Am I misreading that to say that, then, the majority of people would not have pinpoint?

A. That's not exclusively stated in there. But it's understood that it's roughly an equal distribution. And one third would roughly probably present with pinpoint pupils, one third with normal size pupils, and one third with dilated pupils. So if you take the normal and dilated group, that would be the majority of patients presenting with heat stroke would have normal or dilated pupils.

Q. You indicated that's understood. Is that mentioned in any of these articles?

A. Not that I'm aware of. No.

Q. Is it mentioned in any of these articles it would be unusual for a patient with heat stroke, then, to present with pinpoint pupils?

A. No. That is one of the possibilities of presentation. That's correct.

Q. Now, with respect to the possibility of organophosphate poisoning, I believe that you testified that if you were face down in ground containing organophosphates, you would be more

likely to absorb a toxic dose than if you were sitting on it. Is that correct?

A. That's correct. Yes.

Q. And have you -- when you reviewed the materials in this case, did you have a chance to look at all the different statements by the witnesses?

A. I've looked at some of the statements by witnesses. I don't have much specific recall from those.

Q. Is that something you were looking for to see if people who were laying face down might have been right next to other people who were sitting up or laying face up in different areas of the lodge?

A. Not something I was looking for in particular. No.

Q. Well, is that something that you think -- if a person was laying face down and next to or within a foot or two of somebody who is laying face up, and the face up person dies, and the person laying face down comes out fine, would that be something that you would consider?

A. I think I testified yesterday to the fact that you would have different absorption rates in different areas of the body. Specifically I

1 compared the buttocks region to the face. So I
2 think what's important to keep in mind is the
3 region of skin that's coming in contact with the
4 toxin.

5 So what I testified to you yesterday is
6 is that those areas that have thin skin or thin
7 mucus membranes would absorb a toxin more readily
8 than those areas of thick skin.

9 Q. So with respect to the hypothesis that
10 there could be organophosphates that caused these
11 deaths, and understanding that you could have
12 absorption through your face, if I'm laying face
13 down right here in the dirt and the person right
14 over here is laying face up and the person right
15 next to her is on his side, those two people die,
16 I'm laying face down and I'm fine, what would that
17 suggest to you?

18 A. I think the best answer to that question
19 is that the person who was face down in the dirt is
20 exposing areas of skin that are thinner and more
21 highly vascularized, so they would be more likely
22 to readily absorb the toxin.

23 Q. And if that person who's face down walks
24 out and is just fine, would that help to suggest
25 perhaps that there was not organophosphates in that

1 area?

2 A. Well, what I said yesterday is that --
3 when that question was posed to me was that it's
4 possible that the organophosphate was present in
5 the dirt. It's also possible that it wasn't
6 uniformly present in the dirt throughout the sweat
7 lodge. That's my best answer to that question.

8 Q. Now, what if -- and you said it's not
9 uniformly. So what if people -- I'm laying face
10 down and the person right over here is face up and
11 right next to her on their side, person on my other
12 side are either face down or face up and they have
13 problems, they wind up going -- there are some that
14 are critically ill. Doesn't that suggest that the
15 fellow who's laying face down is right in the
16 middle of where these people are having problems?

17 A. Again, the best answer to your question
18 is that the person who is face down in the dirt and
19 is asymptomatic or doesn't have symptoms was
20 probably not exposed to an organophosphate. That's
21 correct.

22 Q. Now, regarding these persons in the
23 shaded box -- and I understand these are the
24 critically ill?

25 A. Yes.

1 Q. Let's go through, and we'll start with
2 Ms. Brown. Can you tell me -- and why don't you
3 write on the easel, if you would. I think there's
4 some markers up here. Can you list for me the
5 different signs or symptoms that you believe
6 Ms. Brown displayed that were consistent with
7 organophosphate poisoning but inconsistent with
8 heat stroke. And I'll walk over with the pen and
9 I'll give it to you. And you can step up to the
10 easel.

11 A. The first two patients, Brown and Shore,
12 these two patients were, essentially, dead at the
13 scene of this incident and pronounced dead upon
14 arrival to the hospital.

15 In Brown's case, the autopsy evidence
16 against this being heat stroke is that lack of
17 dehydration. And, once again, it's pretty easy to
18 test for dehydration at the time of autopsy. We
19 look at the eye fluid. And you can check BUN and
20 creatinine, which are markers of dehydration, as
21 well as sodium concentrations. The BUN and
22 creatinine in this case were absolutely normal.

23 As I said yesterday, the three classic
24 markers of nonexertional heat stroke are mental
25 status changes -- we can't check that in deceased

1 individuals -- the anhidrosis or sweating -- you
2 can't check that as well in a deceased
3 individual -- and elevated temperature. The
4 temperature was not taken in this case, and we
5 don't have that data to work with.

6 The other evidence that they found at
7 autopsy that is more consistent with
8 organophosphate toxicity is pulmonary edema or
9 fluid in the lungs. I believe I spoke a lot about
10 pulmonary edema yesterday. And I'd like to
11 contrast pulmonary edema in heat stroke with
12 pulmonary edema in organophosphate toxicity.

13 In organophosphate toxicity, pulmonary
14 edema occurs very early on in the disease. Fluid
15 is secreted into the lungs through the airways of
16 the lungs, and it can be very prominent very early
17 on.

18 In heat stroke it's accepted that it's a
19 late-stage finding. The two instances where you
20 see pulmonary edema in heat stroke is after they've
21 been aggressively rehydrated with intravenous
22 fluids or with complications of the lung, like a
23 couple of days or more after they've been admitted
24 to the hospital. And that's called "ARDS."

25 So it would be unusual in heat stroke to

1 **have early-onset pulmonary edema, and that was**
 2 **clearly noted at the scene and at autopsy that**
 3 **pulmonary edema was present.**

4 **Q.** Well, let's -- I'd like to go through
 5 them one by one. And, yeah. I think you see where
 6 I'm heading. So I am going to ask you about
 7 Mr. Shore also.

8 But for Ms. Brown you've indicated some
 9 of the factors that you believe are inconsistent
 10 with heat stroke. Can you write down the factors
 11 that you believe are consistent, then, with
 12 organophosphate poisoning.

13 **A. I did. Pulmonary edema.**

14 **Q.** Is that the only factor, then, that
 15 you're aware of for Ms. Brown?

16 **A. That's correct.**

17 **Q.** Okay. So you can take a seat. I'll ask
 18 you a couple of questions about those. Then we'll
 19 move on. And we're going to go down through this
 20 list.

21 With respect to the dehydration, we
 22 talked about that yesterday. And you would agree
 23 with me that the materials that you provided,
 24 including the criteria for diagnosis of
 25 heat-related death by the National Association of

1 Medical Examiners' position paper does not include
 2 dehydration as a diagnostic criteria for
 3 determining if a person died from heat stroke?

4 **A. That's correct. And we discussed that**
 5 **yesterday.**

6 **Q.** And with respect to the pulmonary edema,
 7 are you aware of any of the materials that you
 8 provided that indicate that the pulmonary edema is
 9 something that you would only expect to see in heat
 10 stroke patients after they've received this
 11 aggressive I.V. therapy?

12 **A. Yes. It's in one of the articles that I**
 13 **gave you, and it is mentioned in the eMedicine**
 14 **article.**

15 **Q.** And let's find that, then. Let me give
 16 you a copy again of the materials that you gave to
 17 Ms. Do. If you can find where it indicates that
 18 you would only see pulmonary edema after aggressive
 19 I.V. therapy in people suffering from heat stroke.

20 **A. I don't see that reference with my first**
 21 **quick look through here. I may be mistaken and**
 22 **it's in another source. I was certain that it was**
 23 **mentioned here that typically it's a late-stage**
 24 **finding with rehydration and ARDS. But I've**
 25 **certainly read that in other sources if it's not**

1 **present here.**

2 **Q.** Now, Dr. Dickson testified that, I think,
 3 he sees 10 to 20 patients a year who are suffering
 4 from heat-related illnesses including heat stroke.
 5 And, in his opinion, pulmonary edema is something
 6 that can happen relatively quickly with heat
 7 stroke.

8 Given that at least in the materials that
 9 you provided that you relied upon in preparing your
 10 report on the deaths in this case, would you still
 11 disagree with Dr. Dickson, who sees these patients
 12 every year down in Yuma, that that is something
 13 that you would expect to see early on in heat
 14 stroke patients?

15 **A. I believe what Dr. Dickson is probably**
 16 **referring to is that since he's an emergency room**
 17 **physician, he's seeing patients as they're arriving**
 18 **in the emergency department.**

19 **One of the first therapies that heat**
 20 **stroke patients will receive is aggressive**
 21 **intravenous rehydration. With aggressive**
 22 **intravenous rehydration, after receiving two,**
 23 **three, four liters of fluid in rapid succession, it**
 24 **would not be uncommon to see pulmonary edema at**
 25 **that point. And I'm sure that would be considered**

1 **early on in the course after they've arrived in the**
 2 **emergency department. So in that respect, I would**
 3 **agree with him.**

4 **If he's referring to early on in the**
 5 **course as in out at the scene before they receive**
 6 **intravenous fluids, I would not agree with him.**
 7 **And the literature does not support that either.**

8 **Q.** Well, you had an opportunity to read
 9 Dr. Dickson's testimony. He spent quite a bit of
 10 time talking about his opinion that pulmonary edema
 11 can occur relatively quickly in a heat stroke
 12 patient.

13 Is it your belief, then, that Dr. Dickson
 14 is not able to differentiate between pulmonary
 15 edema caused by heat stroke and pulmonary edema
 16 caused by an EMT who is giving someone too much
 17 fluids?

18 **A. All I'm saying is that I understand the**
 19 **mechanism of pulmonary edema in heat stroke. And**
 20 **it's clearly explained in the literature as well**
 21 **that the two most common causes of pulmonary edema**
 22 **in heat stroke are aggressive fluid resuscitation**
 23 **and ARDS. Both of those would occur after**
 24 **receiving therapy in a hospital.**

25 **I can't comment on Dr. Dickson's comments**

1 about this occurring early on in the course. I
2 think he would have to further explain what he
3 means by "early on in the course" for me to better
4 under that statement.

5 Q. Now, you said if the EMT is giving three
6 or four liters of fluid, it could cause the
7 pulmonary edema?

8 A. It's a rough estimate. Yes.

9 Q. Now, in a typical ambulance transport
10 from a scene to a hospital, would you expect that
11 they would pump three to four liters of fluid into
12 a patient over maybe a 10- to 15-minute
13 transportation?

14 A. Probably not. No.

15 Q. In fact, have you ever seen -- when you
16 were an emergency room doctor, have you ever seen
17 such a thing happen?

18 A. I've seen massive amounts of fluid given
19 during transport in people that were significantly
20 hypovolemic, meaning that their blood volume was
21 very low for whatever reason. They were shot and
22 bleeding at the scene, significantly dehydrated,
23 and had a low blood pressure. It would not be
24 uncommon to put what's called a "large-bore I.V.,"
25 a 16-gauge I.V., one in each arm and open up the

1 fluids, being given fluids as rapidly as possible.

2 Q. And that's full bolus?

3 A. But that's full bolus in people that are
4 symptomatic from volume loss. And it's certainly
5 not inconceivable that they receive that volume
6 over a matter of minutes, whether it's 15, 20
7 minutes. Yes.

8 Q. And you believe that with a 16-gauge
9 needle at full bolus, a patient could receive three
10 to four liters of IV fluid from --

11 A. I'm not saying that. I didn't say three
12 to four liters.

13 Q. Okay. What sort of volume would you
14 expect to see them receive over 15 minutes with a
15 16-gauge needle at full bolus, one in each arm?

16 A. I wouldn't be surprised if you could put
17 in up to a liter and a half over that period.

18 Q. A liter and a half, you would agree,
19 would not typically put you into the state of
20 having a pulmonary edema that you testified a
21 moment ago would be three or four liters of I.V.
22 fluid?

23 A. In somebody that's significantly
24 dehydrated, that would most likely be an inadequate
25 volume if we're talking about adults here.

1 Q. And, again, I'm not talking about a --
2 obviously if you put two liters of fluid in an
3 infant, it's a different situation than in someone
4 like Liz Neuman or Kirby Brown or James Shore or
5 Tess Wong. Wouldn't you agree?

6 A. That's correct.

7 Q. Okay. Let's go then -- you started on
8 Mr. Shore. Can you explain the factors that you
9 find inconsistent or consistent with heat stroke
10 and organophosphate poisoning for Mr. Shore.

11 A. Once again, Mr. Shore was dead at the
12 scene. And at the time of his autopsy, there was
13 no evidence of dehydration either. His BUN and
14 creatinine by the vitreous fluid testing was
15 normal. He also had pulmonary edema at the time of
16 autopsy. And so this is, as I've stated, is more
17 consistent with organophosphate toxicity for the
18 reasons that I've just stated. So this is
19 inconsistent with heat stroke, and this is more
20 consistent with organophosphate toxicity.

21 Also I will mention at autopsy he had an
22 increased sized heart. It was 490 grams, which is
23 significantly large, as well as mild to moderate
24 coronary artery disease.

25 Q. And what is it, then, about the enlarged

1 heart and the mild to moderate coronary artery
2 disease -- does that factor in one way or the other
3 as to heat stroke or organophosphates?

4 A. It doesn't particularly help me out
5 either way. But I think it's fair to mention
6 because it was present at autopsy.

7 Q. Okay. And I will represent to you that
8 the medical examiners have mentioned the heart
9 condition that Mr. Shore apparently was suffering
10 from. So apart from the heart condition, it's your
11 belief that the same two factors, the apparent lack
12 of dehydration and the pulmonary edema, in your
13 opinion, are consistent with organophosphate
14 poisoning but not consistent with heat stroke?

15 A. That's correct.

16 Q. What were the pupil sizes of Ms. Brown
17 and Mr. Shore?

18 A. I don't recall. And it would not be
19 relevant. And pupil size is not reliable after
20 death.

21 Q. When you die, do the muscles in your
22 eye -- can they start to contract or loosen?

23 A. Exactly.

24 Q. Okay. Now, you can get a seat for a
25 minute because I have a couple more questions about

1 these two. With respect to Mr. Brown or
2 Ms. Shore -- or excuse me -- Ms. Brown or
3 Mr. Shore, did the medical records show any other
4 signs at the scene that would be consistent with
5 these mnemonics we've been hearing -- the SLUDGEM
6 or the killer bees -- in other words, the fact that
7 they may have had drool coming out of their mouths
8 before they died or excessive sweating or
9 defecation or any of those things?

10 **A. The only documented evidence at the scene**
11 **that I can recall was pulmonary edema. But apart**
12 **from that there would be no other evidence. No.**

13 **Q.** So apparently they died without
14 exhibiting any of the other signs from the
15 mnemonic?

16 **A. They weren't described in the clinical**
17 **histories. That's correct.**

18 **Q.** Let's go, then, to -- if you want to flip
19 the page over, if you don't mind. Well go, then,
20 to Mr. Ray, who did survive. And if you could
21 answer the same question, the factors that would be
22 consistent or inconsistent with heat stroke and
23 organophosphates.

24 Okay. And we've talked about
25 dehydration. Can you tell me what the mental

1 status change, how that plays into your hypothesis.

2 **A. And I think I talked to you about this at**
3 **length yesterday as well. In organophosphate**
4 **toxicity you can have mental status changes or**
5 **changes in mentation very early on in the process.**
6 **It's an integral part of the toxicity. So people**
7 **can become comatose very early on in**
8 **organophosphate toxicity.**

9 **In heat stroke there are two different**
10 **factors that come into play with mental status**
11 **changes or a comatose state:**

12 **One, severe dehydration can cause water**
13 **to move around in the brain pulling it out of the**
14 **neurons of the brain and cause swelling of the**
15 **brain, which can cause a change in mentation or a**
16 **comatose state.**

17 **The other way that heat stroke affects**
18 **the brain is through direct injury. The heat**
19 **itself, if the body gets hot enough and it's**
20 **sustained for a period of time, can actually damage**
21 **the neurons of the body -- or the neurons of the**
22 **brain and cause a comatose state or altered**
23 **mentation.**

24 **In this case -- and I'll talk about this**
25 **in the next four patients, including Mr. Ray. That**

1 **these patients had mental status changes very early**
2 **on in the course. And as far as I can tell from**
3 **the records that I was given, that there was no**
4 **permanent neurologic sequela. And that's mentioned**
5 **in some places in the clinical record.**

6 **So they had early mental status changes**
7 **which were completely reversible without any**
8 **evidence of dehydration in their workup at the**
9 **hospital. And I think that picture is much more**
10 **consistent with organophosphate toxicity than with**
11 **heat stroke.**

12 **Q.** And then can you explain the respiratory
13 failure.

14 **A. Respiratory failure is very common. And**
15 **it's the typical cause of death with**
16 **organophosphate toxicity. Organophosphates --**
17 **first of all, they cause a lot of fluid to be**
18 **secreted into the lungs. And we've talked about**
19 **that. Organophosphates cause pulmonary edema.**

20 **The second thing is that organophosphates**
21 **can paralyze the breathing muscles. And so**
22 **patients lose the ability to breathe or ventilate**
23 **themselves. And that's typically the primary cause**
24 **of death in organophosphate toxicity. And that**
25 **happens early on in the course.**

1 **All the critically ill patients**
2 **demonstrated respiratory failure early in the**
3 **course just like they demonstrated mental status**
4 **changes early on in the course.**

5 **Now, as I talked about previously with**
6 **heat stroke, you can get breathing problems in the**
7 **course of the illness. But it typically occurs a**
8 **little bit later or a lot later in the clinical**
9 **course. One is that you can get it from pulmonary**
10 **edema from aggressive rehydration in the hospital.**
11 **And the second way you can get respiratory failure**
12 **is through ARDS, which is a complication of the**
13 **lungs which happens after a couple days of**
14 **hospitalization.**

15 **So for those reasons I believe that the**
16 **respiratory failure is much more consistent with**
17 **organophosphate toxicity than it is with heat**
18 **stroke.**

19 **Q.** With respect to Mr. Ray, was there large
20 amounts of saliva or drool coming out?

21 **A. I don't recall that being described. No.**

22 **Q.** And was there excessive sweating?

23 **A. His skin was described as cool and**
24 **clammy, I believe. I testified to that yesterday.**
25 **But there was no description of excessive sweating.**

1 **No.**

2 **Q.** And was there signs or symptoms of the
3 other -- apart from the ones you mentioned there,
4 the pinpoint pupils, for example, are there signs
5 and symptoms of any of the other common -- SLUDGEM
6 or the killer bees that you would expect to see
7 with a toxidrome?

8 **A.** **Would you mind if I refer to my notes?**

9 **Q.** If that would help your testimony, please
10 go ahead.

11 **A.** **No. Those are all the reasons, including**
12 **the pinpoint pupils, which I haven't talked about**
13 **yet.**

14 **Q.** And the -- well, would you tell us what
15 it is about the pinpoint pupils that you haven't
16 already told us about that you believe would be
17 consistent, then, with heat stroke as opposed to
18 organophosphates.

19 **A.** **So you mean inconsistent with heat stroke**
20 **or inconsistent with organo- --**

21 **Q.** Consistent or inconsistent, with either
22 one.

23 **A.** **And I talked about this at length this**
24 **morning. In organophosphate toxicity, about**
25 **85 percent of patients present with pinpoint**

1 **pupils. It's the most common sign of**
2 **organophosphate toxicity.**

3 **When you talk about heat stroke, it's**
4 **really evenly distributed. There is no predictable**
5 **pupil size. Some will have small pupils, some will**
6 **have normal size pupils, and some will have large**
7 **size pupils.**

8 **The fact that four -- the four critically**
9 **ill patients all had pinpoint pupils strongly**
10 **suggests that this is something other than heat**
11 **stroke. It would be a very unusual finding in all**
12 **four of those critically ill patients.**

13 **Q.** Now, Doctor, you would agree with me,
14 though, that the article that you provided that I
15 just read to you a little earlier, under the signs
16 and symptoms for heat stroke, the section on eyes
17 says the pupils may be fixed, dilated, pinpoint, or
18 normal?

19 **A.** **I believe I've said the same thing. Yes.**

20 **Q.** And you would agree that nowhere in this
21 article -- and I think you took the time to look --
22 in any of the articles that you provided that you
23 relied on in preparing your report and your
24 opinions does it say that you would expect to see
25 an even distribution of those pupil sizes?

1 **A.** **I don't believe it's mentioned in there.**

2 **No.**

3 **Q.** Well, would you go ahead, then, and tell
4 us, if you would, the signs and symptoms for
5 Ms. Neuman that you believe are consistent or
6 inconsistent with heat stroke or organophosphates.

7 **Actually, before I move to Ms. Neuman,**
8 **you mentioned on respiratory failure, that often**
9 **the diaphragm gets paralyzed?**

10 **A.** **Yes. That's correct.**

11 **Q.** And is a treatment -- common treatment
12 for organophosphate poisoning providing some sort
13 of a particular type of a drug?

14 **A.** **So there would be two treatments**
15 **really -- or three really that you would use when**
16 **treating respiratory failure in organophosphate**
17 **toxicity:**

18 **The most common drug is atropine, which**
19 **is an anticholinergic medication. And it would**
20 **directly compete with the organophosphate toxicity**
21 **and negate its effect. It's very short acting. So**
22 **a lot of times you can give a lot of atropine in**
23 **order to maintain that effect.**

24 **There's also 2-PAM or pralidoxime, which**
25 **is -- also can inhibit the effect of**

1 **organophosphates and also improve the effect of the**
2 **enzyme that breaks down the acetylcholine, which is**
3 **the main -- which is really causing the main effect**
4 **at those receptors.**

5 **But the other critical thing that has to**
6 **be done in treatment is intubation and respiratory**
7 **support. So these patients are almost always**
8 **intubated for respiratory failure and a machine is**
9 **breathing for them. They're typically not able to**
10 **breathe on their own.**

11 **Q.** And I'm glad you brought up intubation.
12 I believe yesterday you testified that you
13 disagreed with Dr. Dickson that patients who have
14 been poisoned by organophosphates would be
15 drowning, essentially, on their own spit?

16 **A.** **Yes.**

17 **Q.** And can you explain your reasons why you
18 don't believe that if they're having this excessive
19 salivation where it's just kind of pouring out of
20 their mouths -- can you explain why you don't
21 believe that they would be drowning or at risk of
22 having a compromised airway from that symptom.

23 **A.** **And I think what I testified to yesterday**
24 **is, A, yes, they do have massive salivation or they**
25 **can have a lot of spit coming out of their mouth.**

1 But the -- typically the respiratory complications
2 are not coming from saliva that's being moved into
3 the airway. The respiratory complications or
4 breathing problems are being caused by fluid that's
5 secreted within the lungs themselves. And that was
6 my explanation yesterday.

7 The point you're making about the mask
8 that's placed on the face, I testified yesterday
9 that it's helpful. You're providing oxygen. There
10 are holes in the mask where fluid can come out
11 around the mask. And it can be essential in some
12 patients to carry them over until they're intubated
13 to protect their airway and ventilate their lungs.

14 Q. Until they're intubated. What's the
15 benefit of intubating a patient over using a mask?

16 A. Well, there are a few, but the primary
17 benefits are, one, you can mechanically ventilate
18 somebody, meaning if they're not breathing on their
19 own, you can push air in and out and breathe for
20 them. The other reason is to protect their airway.

21 Q. Now, let's talk about protecting their
22 airway. What does that mean?

23 A. Generally when people are obtunded or
24 comatose, they don't protect their airway, meaning
25 that substances can enter their airway more easily

1 than when they're awake.

2 Q. And you indicated can enter their airway
3 more easily. If you have all this heavy salivation
4 and you're obtunded, you're comatose -- say you
5 have a Glasgow Coma Scale of 7, which, I think, was
6 Ms. Neuman's Glasgow Coma Scale. What would you
7 expect to happen to all that spit if she was laying
8 on her back and she's producing large amounts?

9 A. Certainly some of that spit could be
10 aspirated. I won't disagree with that.

11 Q. In fact, would you expect that a large
12 amount of it would be?

13 A. I think that that would be a guess. It
14 would travel through the esophagus, travel out of
15 the mouth, and travel into the lung. But certainly
16 she'd be at risk for aspirating some of that
17 saliva. Yes.

18 Q. And what would happen -- what does
19 "aspirating" mean? What happens when you aspirate
20 a large amount of saliva?

21 A. Well, aspirating anything is breathing
22 something into the lung.

23 Q. And could that lead to pulmonary edema?

24 A. No.

25 Q. And why is that?

1 A. I've seen many cases of aspiration of
2 stomach contents, water, other fluids. And you can
3 see evidence of that at the time of autopsy in the
4 lung. You can see fluids pooling in the airways.
5 But frank, frothy pulmonary edema emanating from
6 the mouth -- I've never seen that in association
7 with aspiration.

8 Q. Again, though, you've -- is it correct
9 you've not actually treated a patient who has died
10 from -- or done an autopsy on a patient who has
11 died from organophosphates?

12 A. I've treated many patients who have
13 died -- or died from either pulmonary edema or the
14 complications of pulmonary edema. And I've
15 autopsied many patients that have aspirated various
16 contents into their lungs.

17 Q. And --

18 A. It's easy to differentiate between the
19 two.

20 Q. Between the -- what two?

21 A. Frank pulmonary edema and fluid
22 aspiration.

23 Q. And how would you go about
24 differentiating between the two?

25 A. I just described it. With frank

1 pulmonary edema, oftentimes you will have frothy
2 foam emanating from the airway, even from the mouth
3 as was described in this case. In aspirated
4 contents, whether it's liquid or stomach content
5 that entering the lungs, you see a pooling in the
6 airways. So you can see it in that manner. Never
7 have I seen an aspiration associated with frothy
8 fluid coming out of the mouth or frothy pulmonary
9 edema.

10 Q. Now, was Liz Neuman in the position after
11 the -- assuming -- let's say hypothetically she was
12 aspirating a large amount of drool -- I don't think
13 there is any evidence that she was. But assuming
14 that she was, would -- is that something you would
15 expect to have been seen in the autopsy, what was
16 it, eight or nine days later?

17 A. No.

18 Q. And why is that?

19 A. That fluid would have been suctioned out
20 of her lungs during hospitalization. When people
21 are intubated, they are periodically -- a tube is
22 periodically placed into their airway to suction
23 any abnormal fluid collections. And so I think it
24 would be unusual if that was still present at the
25 time of autopsy.

1 Q. And was that something that was seen in
2 Ms. Brown or Mr. Shore?

3 A. **The pulmonary edema?**

4 Q. The pulmonary edema.

5 A. **Yes.**

6 Q. And how about the fluid that you believe
7 you would see in the lungs?

8 A. **From?**

9 Q. From excessive salivation.

10 A. **All that was described was pulmonary
11 edema.**

12 Q. So if Ms. Brown and Mr. Shore had died
13 from pulmonary edema related to heat stroke, you
14 wouldn't expect to see large amounts of salivation;
15 is that correct?

16 A. **If this was purely a heat stroke death,
17 no.**

18 Q. And -- no, you would not expect, or no,
19 you would expect?

20 A. **Well, I think your question is would I
21 expect to see large amounts of salivations in
22 somebody who had died of heat stroke. No. I would
23 not.**

24 Q. And if you had seen large amounts of
25 salivation, you would expect to see -- if it had

1 gotten into their lungs, you would expect to see
2 that pooled in their lungs when the autopsy was
3 performed on Ms. Brown or Mr. Shore?

4 A. **Yes. It may have been present. If it
5 was present in significant quantity, you would see
6 that at the time of autopsy. Yes.**

7 Q. And you would agree with me the autopsy
8 reports for Ms. Brown and Mr. Shore don't show that
9 there is any fluid pooled in their lungs like you
10 were describing?

11 A. **They described pulmonary edema. That's
12 correct.**

13 Q. And you would agree with me that they
14 didn't see the pooling in the lungs that you would
15 expect to see if they had drowned on their own
16 spit, for example?

17 A. **So they did not describe anything
18 aspirated into the airways of their lungs, no, in
19 the autopsy report. I can't testify to -- I can't
20 be any more specific than that because I'm only
21 reading the autopsy report. Obviously I didn't
22 perform them.**

23 Q. Is that something that you would expect a
24 qualified medical examiner to note in their autopsy
25 report?

1 A. **If they thought it was significant, they
2 would probably note it. I can't speak for other
3 medical examiners however.**

4 Q. Is that something you would note?

5 A. **It depends on the circumstances. And
6 aspiration is a very common event around the time
7 of death. So oftentimes people have stomach
8 contents in their airway when we perform an
9 autopsy. If it's not relative -- relevant to the
10 cause of death, many times it's not mentioned in
11 the autopsy report.**

12 Q. And with respect to the respiratory
13 failure, you also indicated that patients can
14 occasionally have -- their diaphragm can actually
15 become paralyzed.

16 A. **Yes.**

17 Q. And this is from organophosphate
18 poisoning; correct?

19 A. **Yes.**

20 Q. And in that case, what happens when your
21 diaphragm becomes paralyzed?

22 A. **So as I explained yesterday, the
23 respiratory muscles act kind of like a bellows.
24 And the muscles moving back and forth can draw air
25 in or out of the lungs. If those muscles are**

1 **paralyzed, there is very little, if any, air
2 movement into the lungs.**

3 Q. And do you know whether in this case
4 Mr. Ray was breathing on his own at the scene?

5 A. **And I believe he was. And I'd have to
6 consult the records to see when he was actually
7 intubated.**

8 Q. Do you know why he was intubated?

9 A. **It was described as respiratory failure.**

10 Q. Do you know what his Glasgow Coma Scale
11 was when he was intubated?

12 A. **All of the intubated patients had Glasgow
13 coma scales between 6 and 10. I don't recall
14 exactly what his was when he was intubated. No.**

15 Q. And with a low Glasgow Coma Scale of,
16 say, 6, is that something you would expect to see
17 as standard treatment would be intubation?

18 A. **Yes.**

19 Q. Did you see any sign in Mr. Ray's
20 records, then, that he suffered from this paralysis
21 of the diaphragm that organophosphates can cause?

22 A. **And I would expect in the clinical record
23 for that to be described as respiratory failure.
24 And you can't directly visualize the diaphragm.
25 It's a muscle that's inside of your body. It**

1 separates the abdominal cavity from the chest
2 cavity, and you can't directly visualize it.
3 **What you can visualize is inadequate**
4 **respiration, very shallow respirations. And so I**
5 **wouldn't expect them to describe it as paralyzed**
6 **diaphragm. I would expect it to be described as**
7 **respiratory failure.**

8 **Q.** Okay. Can you show me -- let's take a
9 look at that record, then, where they describe the
10 respiratory failure as the reason why they decided
11 to intubate Mr. Ray.

12 **A.** I'd have to go through his record. And I
13 **don't have that reference jotted down or that**
14 **notation jotted down.**

15 **Q.** Is that something that you thought if
16 respiratory failure, particularly a paralyzed
17 diaphragm, was important in determining if it was
18 organophosphates -- was that something you would
19 have noted in your notes?

20 **A.** Well, it's something that I mentally
21 **noted and wrote down here that all the patients**
22 **were described as having respiratory failure.**

23 **Q.** Well, and, again, respiratory failure, I
24 think we've talked a little bit about this. The
25 respiratory failure, the intubation can be because

1 of the low Glasgow Coma Scale; correct?

2 **A.** But that's not respiratory failure.

3 **Q.** Why don't you find for me -- we have a
4 little time -- in Mr. Stephen Ray's medical records
5 where they talk about the intubation because of
6 respiratory failure.

7 **A.** So if we go to Bates No. 6998 --

8 **Q.** Okay. And this is the EMS report;
9 correct?

10 **A.** That's correct. Yes.

11 **Q.** Okay.

12 **A.** There is mention here -- and I haven't
13 **read through the entire medical records. I'm just**
14 **trying to find evidence in the medical record that**
15 **he's experiencing respiratory failure --**

16 **Q.** Okay.

17 **A.** -- as you asked.

18 **Q.** Okay.

19 **A.** And the statement here is, patient
20 **desatting to the 70s. So that means his oxygen**
21 **concentrations are falling precipitously. And 70s**
22 **is a very dangerous concentration --**

23 **Q.** Okay.

24 **A.** -- of oxygen. I can't -- it's 70s on.

25 **And I can't read. Something with something. And**

1 **then the next line is, patient has agonal**
2 **respirations. "Agonal" means very shallow,**
3 **ineffective respirations.**

4 **Q.** Now, is that something that you could
5 expect to see from a person who is suffering from
6 heat stroke?

7 **A.** You mean respiratory failure?

8 **Q.** Respiratory failure.

9 **A.** Well, I've talked about that earlier.

10 **And they can experience respiratory failure but for**
11 **different reasons and at a different time in their**
12 **clinical course.**

13 **Once again, this is an EMS report**
14 **describing Mr. Ray with, basically, terminal**
15 **respirations very early on in his course. As I've**
16 **said before, heat stroke, you can have respiratory**
17 **failure, but it occurs later on in the course after**
18 **they're receiving aggressive resuscitation with**
19 **fluids or as a complication from the**
20 **hospitalization.**

21 **Q.** The -- your opinion regarding the fact
22 that the respiratory failure would occur much later
23 on in the course of heat stroke -- is that based on
24 materials in these scientific articles that you've
25 provided?

1 **A.** I'd actually have to go back and reread
2 **that eMedicine article in detail. But I did not**
3 **see that mentioned in the eMedicine article. So I**
4 **don't know if it's in that literature that I've**
5 **given you.**

6 **Q.** That was one of the things that I asked
7 you about yesterday?

8 **A.** What is --

9 **Q.** Had I asked you to find that yesterday?

10 **A.** Concerning the hydration?

11 **Q.** Concerning the fact that -- or your
12 opinion that respiratory failure would be something
13 that would occur only very late in heat stroke.

14 **A.** I don't think you asked me that question
15 **yesterday. If you did, I don't recall.**

16 **Q.** And what do you define as very late in
17 heat stroke?

18 **A.** And so I've already answered that
19 **question as well. With aggressive rehydration,**
20 **that would occur after somebody probably arrived in**
21 **the emergency department or has received enough**
22 **intravenous fluid to put them into pulmonary edema.**
23 **So from that aspect, it could occur two, three,**
24 **four hours after presentation, depending on how**
25 **quickly they were fluid resuscitated. From an ARDS**

1 **standpoint, that typically occurs more -- more than**
 2 **two or three days later during their hospital**
 3 **course.**

4 **Q.** Can you locate for me, then, where it
 5 indicates that in the journal articles that you've
 6 provided.

7 **A.** **Where it indicates what?**

8 **Q.** Your opinion that the respiratory failure
 9 in heat stroke patients would occur late in the
 10 course of the heat stroke.

11 **A.** **All I can say is I've certainly read that**
 12 **in the past. And that would be common medical**
 13 **knowledge.**

14 **Q.** Do you know whether that is in any of
 15 these articles that are specifically on the topic
 16 of heat stroke?

17 **A.** **I did not see it in the eMedicine article**
 18 **that I just quickly went through. But I do believe**
 19 **it was mentioned in there. And I'd have to reread**
 20 **it in detail.**

21 **Q.** Would you please do that.

22 **A.** **It looks like I'm mistaken with the -- my**
 23 **reference to that. It is not specifically**
 24 **mentioned in here.**

25 **Q.** Okay.

1 **A.** **But as I've stated earlier, I've**
 2 **certainly read that in other sources.**

3 **Q.** Again, thank you, Doctor.

4 Regarding, then, Ms. Neuman, can you tell
 5 us the factors that are consistent with or
 6 inconsistent with heat stroke, organophosphates.

7 **A.** **So Ms. Neuman was, essentially, comatose**
 8 **at the scene. The things that were, once again,**
 9 **inconsistent with heat stroke, there was no**
 10 **evidence of dehydration. There's some -- she had**
 11 **mental status changes very early on in her course.**
 12 **She was comatose at the scene. Also documented**
 13 **pinpoint pupils. Also documented respiratory**
 14 **failure.**

15 **Ms. Neuman also had a blood pressure**
 16 **reading which was approximately 204 millimeters of**
 17 **mercury in the emergency department, which would be**
 18 **very unusual for heat stroke but can be commonly**
 19 **seen in organophosphate toxicity. She also had**
 20 **documented diarrhea in the medical record, which is**
 21 **consistent with organophosphate toxicity.**

22 **Those are all the reasons that I've**
 23 **noted.**

24 **Q.** Now, regarding the mental status changes,
 25 I think you had testified yesterday that one of the

1 hallmark diagnostic criteria of heat stroke is
 2 mental status change. Is that correct?

3 **A.** **That's correct. Yes.**

4 **Q.** So what about her mental status change do
 5 you find not to fit that hallmark diagnostic
 6 criteria?

7 **A.** **It's a good point. Her mental status**
 8 **change was early, but it was also permanent. And**
 9 **so since it was early, it would be consistent with**
 10 **organophosphates. But since it's permanent, you**
 11 **could think it would also be consist with heat**
 12 **stroke.**

13 **Q.** Now, you would expect, then, to see
 14 mental status change late in the course of heat
 15 stroke?

16 **A.** **As I mentioned earlier, that there are**
 17 **two reasons to get mental status change in heat**
 18 **stroke. One is dehydration can cause mental status**
 19 **changes, high sodium in particular. And the other**
 20 **is the direct effect of the heat itself. I never**
 21 **said it's a late-stage finding. What I did say is**
 22 **that it had a direct association with those two**
 23 **entities.**

24 **Q.** And can you point to me, then, in these
 25 articles that you provided, that you formulated

1 your report based upon that support, those -- those
 2 reasons why you would have mental status change in
 3 heat stroke, dehydration and --

4 **A.** **Well, I'd like -- I'd like to clarify.**
 5 **And you're implying that my entire report is based**
 6 **on those three articles, which I think is a gross**
 7 **exaggeration. My consult letter is based on**
 8 **personal experience, training, prior reading,**
 9 **experience in clinical medicine as well as**
 10 **reference materials.**

11 **So although some material is not present**
 12 **in those three referenced articles certainly**
 13 **doesn't mean that it doesn't exist in the medical**
 14 **literature.**

15 **Q.** Now, during the interview, you would
 16 agree I did ask you for all the articles or
 17 materials or sources that you used in preparing
 18 your report?

19 **A.** **I can't -- I can't provide you everything**
 20 **I've read over the last 10 years on heat stroke or**
 21 **organophosphates or -- I -- it would include**
 22 **multiple textbooks, multiple articles. It would be**
 23 **impossible for me to compile all that information**
 24 **for you.**

25 **Q.** In answer, then, if you would, to my

1 question, is there anything in the articles that
2 you did provide that document the -- your opinion
3 that the mental status change that you would see in
4 heat stroke is based on dehydration?

5 **A. I did not see that specifically mentioned**
6 **in that eMedicine article or the other articles**
7 **that I've given you. No.**

8 **Q.** You mentioned three articles. Isn't it
9 correct there are more than three articles that you
10 provided?

11 **A. And --**

12 **Q.** Let me ask you. Is there -- did you
13 provide an article called "Cold-water Immersion and
14 the Treatment of Hyperthermia: Using 38.6 Degrees
15 as a Safe Rectal Temperature Cooling Limit"?

16 **A. Yes.**

17 **Q.** Okay. And then did you provide the
18 article we've talked about, "Criteria for the
19 Diagnosis of Heat-related Deaths: National
20 Association of Medical Examiners' Position Paper"?

21 **A. Yes.**

22 **Q.** That would be the second one.
23 And then did you provide an article
24 titled "Dehydration in Heat-related Death: Sweat
25 Lodge Syndrome"?

1 **A. Yes.**

2 **Q.** And then did you provide this eMedicine
3 article we've talked about entitled "Heatstroke" by
4 Robert S. Helman, MD?

5 **A. Yes.**

6 **Q.** And then did you provide an article
7 entitled "An Analysis of Factors Contributing to a
8 Series of Deaths Caused by Exposure to High
9 Environmental Temperatures"?

10 **A. Yes.**

11 **Q.** And, Doctor, when you were hired in this
12 case, did you, then -- how many hours did you
13 indicate you've worked on this so far?

14 **A. At least 80 hours.**

15 **Q.** In those 80 hours did you go out and try
16 and find scholarly articles on the subject of heat
17 stroke and heat-related illnesses?

18 **A. Yes.**

19 **Q.** And are the articles, then, that you
20 provided to Ms. Do the articles that you were able
21 to locate?

22 **A. Those were the articles that I found of**
23 **interest and provided some knowledge that I was not**
24 **sure of, particularly in the areas of rapidity of**
25 **cooling. And so I found that article to be not**

1 **only interesting but informative for me.**

2 **I thought the National Association of**
3 **Medical Examiners article was a good article to**
4 **present not only here but in my consult letter.**
5 **Because it does describe a relative standard of**
6 **care for medical examiners across the country.**

7 **The eMedicine article was a good general**
8 **article describing the differences between**
9 **nonexertional and exertional heat stroke.**

10 **Q.** Is it correct, then, that on the topics
11 we've asked -- I've asked you about that have not
12 been documented, you didn't provide an article that
13 substantiated those points?

14 **A. I did not find it in the references that**
15 **I have given you. No.**

16 **Q.** Well, let me ask you a little more about
17 dehydration. If patients were to -- if people were
18 to have gone into that sweat lodge with a belly
19 full of water and were exposed to the heat inside,
20 would you expect that that could affect whether
21 they would be dehydrated at the end of the two
22 hours or so that they were inside?

23 **A. Obviously if you're adequately hydrated**
24 **prior to being exposed to a high-heat environment,**
25 **that the effect of the high-heat environment would**

1 **take longer to manifest in a person's body as**
2 **opposed to somebody who entered a high-heat**
3 **environment significantly dehydrated. I think**
4 **that's the best way to answer that question.**

5 **Q.** Well, and you mentioned that the injuries
6 that you would expect to see that would cause the
7 altered mental status change, in your opinion, are
8 caused by dehydration or by heat; is that correct?

9 **A. That's correct. Yes.**

10 **Q.** And what are the sorts of heat -- what
11 sort of heat temperatures would start to cause a
12 change or an impairment to a person's mental
13 status?

14 **A. It's not the -- it's not the heat of the**
15 **environment. It's the heat of the person's body.**
16 **So sustained bodily temperatures of 104, 105, 106**
17 **over time is what causes the damage to the brain**
18 **cells themselves.**

19 **Q.** How much time -- if you were exposed to a
20 very hot environment and your body heats up to that
21 104, 105, 106, how much time does it take before
22 you start to see, then, the altered mental status
23 change?

24 **A. At that temperature?**

25 **Q.** At that temperature.

1 **A. Typically all people would be manifesting**
2 **some symptoms of mental status changes if you have**
3 **a temperature of 105 to 106 degrees Fahrenheit.**

4 **Q.** And how quickly can the body heat up to
5 that temperature with exposure to heat?

6 **A. I think it really depends on the heat**
7 **that they're being exposed to. It depends on the**
8 **relative humidity that they're placed in. It also**
9 **depends on the person. Some people are acclimated**
10 **to high temperatures, and they are able to sweat**
11 **very liberally and for a long period of time and**
12 **can withstand high temperatures and high humidity**
13 **for an extended length.**

14 **Some people are not acclimated to high**
15 **heat and high humid environments and would succumb**
16 **rather quickly to that environment. Some people**
17 **take medications that can affect your ability to**
18 **sweat -- some antidepressant medications,**
19 **anticholinergic medicines that are commonly used.**
20 **So that would affect the time frame as well.**

21 **There are many different factors that**
22 **would affect the length of time it would take in**
23 **order to reach a critically high body temperature**
24 **and succumb to that environment.**

25 **Q.** In your opinion, is two hours a

1 sufficient time?

2 **A. At the appropriate temperature and**
3 **humidity, yes.**

4 **Q.** Do you know what the temperature and
5 humidity was inside the sweat lodge?

6 **A. I do not know.**

7 **Q.** Were you ever provided by Ms. Do or
8 Mr. Li or Mr. Kelly a audiotape of Mr. Ray talking
9 about the conditions that would be experienced
10 inside the sweat lodge?

11 **A. No, I was not.**

12 **Q.** Have you ever -- and I understand Ms. Do
13 provided you with the testimony -- or what she has
14 is some sort of a -- notes or transcript of
15 Dr. Dickson's testimony in this case.

16 **A. Yes.**

17 **Q.** Did she provide you with some similar
18 information from this trial about the testimony
19 about how much water was taken in and converted to
20 steam inside the sweat lodge?

21 **A. No.**

22 **Q.** Explain, if you would, how steam can
23 affect a person's response to exposure to heat.

24 **A. So being -- placing a body in an**
25 **environment where steam is being produced, you**

1 **would expect that environment, if it were a closed**
2 **system, to be a humid environment -- or a**
3 **high-humid environment. People generally will**
4 **continue to sweat in a high-humid environment, but**
5 **the evaporative cooling effect is less than you**
6 **would typically expect.**

7 **Q.** Would you expect that they could, then,
8 succumb to the heat more quickly than if they were
9 in a dry environment?

10 **A. So somebody that's placed in a hot, humid**
11 **environment would -- their body temperatures would**
12 **elevate more quickly in general than somebody who**
13 **is placed in a hot, dry environment. Yes.**

14 **Q.** You indicated to Ms. Do that you yourself
15 had been in a sweat lodge, I think you said, when
16 you were a teenager?

17 **A. That's correct. Yes.**

18 **Q.** Do you recall how long you were in there?

19 **A. Probably an hour or two hours. I can't**
20 **recall. It was so long ago.**

21 **Q.** Do you recall how hot it was in there?

22 **A. And certainly we did not measure the**
23 **temperature in there, but it was hot inside the**
24 **sweat lodge. Yes.**

25 **Q.** And by "hot," what do you reckon the

1 temperature was?

2 **A. It was noticeably hot but certainly not**
3 **hot enough to force us out of the sweat lodge.**
4 **That's all I can tell you.**

5 **Q.** And you believe you were in there for an
6 hour to two hours?

7 **A. Roughly in that time frame. Yes.**

8 **Q.** In this case do you know that Mr. Ray
9 told the participants that, I've been in a lot of
10 lodges, and there is no lodge like my lodge? It
11 will be the most intense experience, the most
12 intense heat that you've ever experienced in your
13 entire life? I guarantee that?

14 **Do you know whether the lodge that you**
15 **were in as a teenager was as hot as the lodge that**
16 **Mr. Ray was running?**

17 **A. I have no way to compare the two.**

18 **Q.** Was it your intent yesterday -- and I
19 realize you just answer the questions as they're
20 thrown to you. But was it your intent to suggest
21 that you have an expertise or a knowledge about
22 sweat lodges?

23 **A. No, I do not.**

24 **Q.** Okay. Would your opinion in this case --
25 well, scratch that.

1 Let me ask you, you've indicated the -- a
2 number of the same points for Ms. Neuman that you
3 have for the others. But you've included increased
4 blood pressure and diarrhea?

5 **A. Yes.**

6 **Q.** Now, on the blood pressure, I think you
7 said that was the blood pressure that Ms. Neuman
8 presented to the hospital with. Is that correct?

9 **A. That's my recollection. Yes.**

10 **Q.** Would you agree with me that prior to
11 receiving medical treatment by the EMTs in the
12 field, Ms. Neuman had a shockingly low blood
13 pressure?

14 **A. That's correct. Yes.**

15 **Q.** And, in fact, how low was her blood
16 pressure when she was first seen by the EMTs out in
17 the field?

18 **A. I believe it's described as a systolic
19 blood pressure in the 80s.**

20 **Q.** And what would be a normal systolic blood
21 pressure?

22 **A. For a healthy female around 100.**

23 **Q.** And what was her diasystolic (sic
24 throughout) blood pressure?

25 **A. In the field?**

1 **Q.** In the field.

2 **A. I don't recall the number.**

3 **Q.** And what would be a normal diasystolic
4 blood pressure?

5 **A. Somewhere between 60 and 70.**

6 **Q.** Let me see if I can find those records,
7 and we'll figure out what it was in the field.

8 And do you recall which agency first saw
9 Ms. Neuman in the field?

10 **A. I don't recall the specific agency. No.**

11 **Q.** Would you agree with me that before the
12 helicopter EMS crew arrived, the local Verde Valley
13 Fire District saw her?

14 **A. You're reading it, sir.**

15 **Q.** Well, do you remember one way or the
16 other from your records?

17 **A. I've read the name of that agency, but --
18 so I except what you've just said.**

19 **Q.** Okay. Well, I'm going to put it up
20 anyways on the screen. I'm talking about
21 Exhibit 365 and Bates No. 2597. And you would
22 agree that this pertains to -- this record pertains
23 to Liz Neuman?

24 **A. Yes.**

25 **Q.** And down here we have the times that

1 certain therapies or treatments were provided;
2 correct?

3 **A. Yes.**

4 **Q.** And then to the right of this are some
5 vital signs; correct?

6 **A. Yes.**

7 **Q.** And would you agree that the first vital
8 sign is at 5:45?

9 **A. Yes.**

10 **Q.** And what would be her systolic and
11 diasystolic blood pressure at that time?

12 **A. Her systolic is 80, and her diastolic is
13 50.**

14 **Q.** And what, again, would be the normal
15 systolic blood pressure?

16 **A. So for a healthy woman approximately 100
17 over 60.**

18 **Q.** And what would be a -- for a woman of 42
19 years?

20 **A. That would be my best guess is on average
21 about 100 over 60.**

22 **Q.** Okay. And what was her blood pressure
23 after she began to receive I.V. therapy?

24 **A. And the next blood pressure is taken at
25 5:55, and it's 88 over 50.**

1 **Q.** Had it increased?

2 **A. Yes.**

3 **Q.** And what was her blood pressure as time
4 went by?

5 **A. And at 6:05 it's now 104 over 45.**

6 **Q.** And how about at 6:05 -- the other
7 readings at 6:05?

8 **A. 106 over 50-something. I can't read the
9 last digit.**

10 **Q.** It looks like a 5.

11 **A. I still can't read the last digit.**

12 **Q.** Okay. What is one of the -- I think you
13 touched on this earlier. What is one of the -- one
14 of the purposes of providing a patient with a
15 low -- shockingly low blood pressure I.V. therapy?

16 **A. One is to replace volume -- blood volume
17 and increase the blood pressure.**

18 **Q.** And you testified, I believe, that one
19 possible cause that can cause pulmonary edema is if
20 the EMTs give too much fluid; is that correct?

21 **A. That's correct. Yes.**

22 **Q.** And as they give too much fluid, if they
23 were -- and I'm not saying they did in this case.
24 But hypothetically, as additional fluid is
25 provided, what does that do to a person's blood

1 pressure?

2 **A. If they have a low blood volume,**
3 **generally it will elevate their blood pressure.**

4 **Q.** And do you recall whether after Verde
5 Valley Fire Department treated Ms. Neuman, the
6 Guardian Air folks -- the EMTs from Guardian Air
7 began to give her additional I.V. fluid?

8 **A. I don't recall specifically how much I.V.**
9 **fluid she received.**

10 **Q.** And then what was her blood pressure when
11 she arrived at the hospital?

12 **A. I'd have to go back to the records. And**
13 **the only thing I recall is that there was an**
14 **emergency department -- there was an emergency**
15 **department documentation of a blood pressure of**
16 **204.**

17 **Q.** As the blood pressure increased, could
18 that have been caused by the I.V. therapy?

19 **A. No.**

20 **Q.** And why is that?

21 **A. A blood pressure of 204 millimeters of**
22 **mercury, a systolic blood pressure, is markedly**
23 **elevated. If you give intravenous fluid to**
24 **somebody that's dehydrated, you may bring them back**
25 **to their normal blood pressure, but they're not**

1 **going to become elevated or hypertensive.**

2 **Q.** What about the comatose state assuming --
3 and just for the sake of hypothetical argument,
4 assuming Ms. Neuman's comatose state was caused by
5 injury to her brain from heat and possibly, then,
6 from a lack of oxygen if she was unable to breathe
7 at that point, could that cause the problems with
8 the blood pressure?

9 **A. Before I answer that, could you put up**
10 **the reference for that blood pressure on the**
11 **screen, please.**

12 **Q.** Absolutely. Let me find it for you.
13 Do you have your notes in front of you?

14 **A. Yes.**

15 THE COURT: Excuse me. Mr. Hughes, why don't
16 we go ahead and take the morning recess at this
17 time.

18 Ladies and gentlemen, please remember the
19 admonition. Please be reassembled in about 15
20 minutes. That will be about five till.

21 And we are in recess.

22 Thank you.

23 (Recess.)

24 THE COURT: The record will show the presence
25 of Mr. Ray, the attorneys, the jury.

1 Dr. Paul is on the witness stand.

2 Mr. Hughes.

3 MR. HUGHES: Thank you.

4 **Q.** Doctor, I believe where we left off on
5 the break, I had a question about Ms. Neuman's
6 blood pressure and whether her medical condition of
7 an injury to the brain -- assuming that the injury
8 to the brain was caused by heat, could that injury
9 to the brain explain in part the increased blood
10 pressure from the time at the scene to the time
11 that it was taken in the hospital?

12 **A. So the brain injury can cause high blood**
13 **pressure. And it's called the "Cushing reflex."**
14 **So typically what you see is a markedly elevated**
15 **blood pressure somewhere in this range of systolic**
16 **blood pressure over 200. But the definition of a**
17 **"Cushing reflex" is that they also have**
18 **bradycardia, meaning that their heart rate is very**
19 **slow.**

20 **And in this case -- and that's the reason**
21 **why I wanted to see the record, specifically just**
22 **to double-check. In this case Ms. Neuman is**
23 **markedly tachycardic. Her heart is going very**
24 **fast, which is inconsistent with a Cushing reflex**
25 **and making this unlikely that it's from brain**

1 **injury.**

2 **Q.** What is your opinion, then, as to the
3 cause of the -- that high blood pressure around the
4 time of her admittance to the -- after she arrived
5 at the emergency department but while she's early
6 on in the emergency department?

7 **A. It's interesting. I was just going**
8 **through some of the blood pressures. And she is --**
9 **she's up and down. She has blood pressures in the**
10 **170, 200, 100. All I can say is that with heat**
11 **stroke, you would expect to find consistently low**
12 **blood pressure or normal blood pressure once**
13 **they've been resuscitated.**

14 **The reason I mentioned high blood**
15 **pressure is that it's associated with**
16 **organophosphate toxicity. That's one of the known**
17 **side effects.**

18 **Q.** And with respect to her blood pressure,
19 later that evening her blood pressure begins to go
20 down; is that correct?

21 **A. I don't have a sheet that gives all of**
22 **the blood pressures taken in chronologic order.**

23 **Q.** Doctor, if you look in Ms. Neuman's
24 medical records, there is a very lengthy section
25 called "vital signs." And the Bates numbers for

1 the area of at least October 8th run from the
2 number I gave you while we were on the break, which
3 shows her blood pressure at the time that it was
4 first taken. And it runs up through -- for
5 October 8th it runs up through Bates Page No. 3195.

6 Do you see those logs?

7 **A. Yes. So if you go backwards from the 204**
8 **systolic, which was taken at 6:53 p.m. on the 8th,**
9 **the next systolic blood pressure is 172. And**
10 **that's at 6:56. The next systolic blood pressure**
11 **is 148. And that's at 6:57. The next systolic**
12 **blood pressure is 148, and that's at 6:58. So**
13 **there is a trend downward.**

14 **But if you get back to 7:10 now, on the**
15 **evening of October 8th, it's back up to 174. Just**
16 **before that it was 154. So there is -- there was a**
17 **short trend of going downwards, and then it seems**
18 **to be going back up.**

19 **Q.** Well, do you know what's happening to
20 Ms. Neuman in this first half hour to hour that she
21 arrives in the emergency department?

22 **A. I assume there is -- there are being some**
23 **interventions. Yes.**

24 **Q.** And do you know whether she was being
25 intubated around that time?

1 **A. It's my recollection that she was --**
2 **actually, I don't know the exact time when she was**
3 **intubated. I can't testify on that.**

4 **Q.** Do you know whether intubation can have
5 an effect on -- or the drugs that are administered
6 for intubation can have an effect on blood
7 pressure?

8 **A. Intubation can raise the blood pressure**
9 **transiently.**

10 **Q.** And can you explain how that happens.

11 **A. Basically, it's a stress on the body.**
12 **And any pain or discomfort that somebody feels can**
13 **cause a transient elevated blood pressure.**

14 **Q.** And what can that do to your pulse?

15 **A. It can also raise your pulse.**

16 **Q.** And at some point do you know whether
17 they begin administering drugs to Ms. Neuman at the
18 emergency department?

19 **A. I don't know what -- at what time and**
20 **what medications you're specifically referring to.**

21 **Q.** Would it be -- based on your training and
22 experience, is that something you would expect to
23 see, the administering of drugs for someone who is
24 in as critically ill condition as Ms. Neuman?

25 **A. You would have to be more specific than**

1 **that and -- because as far as I can tell, by the**
2 **time she's reached the emergency department, her**
3 **blood pressure is normalized or it's high. So**
4 **she's not going to receive medication for that.**

5 **Q.** Well, you indicated that when she arrived
6 at the emergency department, her blood pressure was
7 around 200 degrees -- or 200, the -- systolic;
8 correct?

9 **A. Yes.**

10 **Q.** And you believe after that point, and the
11 records indicate, they move up and down. But you
12 say they start to trend downwards from that point?

13 **A. That's correct.**

14 **Q.** Now the -- with respect to the course of
15 her hospitalization, would you expect to see a drug
16 administered for somebody when you're trying to put
17 an airway in?

18 **A. It depends on how awake they are when you**
19 **intubate somebody. Generally they'll use**
20 **medication, such as succinylcholine, which is a**
21 **paralytic drug. And oftentimes they'll use a**
22 **sedative medication as well.**

23 **Q.** Let me see if I can find -- there's a --
24 do you recall seeing a log in her medical records
25 that show all the different drugs that were

1 administered and the times they were administered?

2 **A. Yeah. I don't know exactly where that**
3 **is, but it would be documented in the medical**
4 **record.**

5 **Q.** That's something you would expect to see
6 in the medical records?

7 **A. A log of the medications --**

8 **Q.** Yes.

9 **A. -- given? Yes.**

10 **Q.** And is that something that you reviewed
11 in this case?

12 **A. I remember reading it. I don't remember**
13 **anything standing out from the medication list.**

14 **Q.** Do you remember whether in that list a
15 drug was provided for the intubation?

16 **A. I don't recall whether succinylcholine or**
17 **a sedative was administered but neither of those**
18 **would be associated with her high blood pressure.**

19 **Q.** Would the administration, though, of the
20 intubation, as you just testified, could increase
21 the blood pressure?

22 **A. Transiently for a few minutes. Yes.**

23 **Q.** Now, my original question, though, would
24 be -- which was the effect -- assuming that there
25 is heat injury on Ms. Neuman's brain, what effect

1 could that have on her blood pressure?

2 **A. Right. And I answered that just after**
3 **the break, that brain injuries are associated with**
4 **elevating the blood pressure. It's known as the**
5 **Cushing reflex. But part of the Cushing reflex is**
6 **not only an elevation of the blood pressure, but a**
7 **slowing down of the heart. So she does have an**
8 **elevated blood pressure, but her heart rate is**
9 **actually markedly elevated, not decreased.**

10 **Q.** Can the effect of heat on the brain cause
11 the heart to increase -- to have an elevated heart
12 rate?

13 **A. Heat stroke associated with volume**
14 **contraction or dehydration can cause an elevated**
15 **heart rate. Yes. Just the effect on the brain**
16 **itself? Not unless you're talking about the**
17 **Cushing reflex.**

18 **Q.** You testified that you believe that
19 Ms. Neuman was not dehydrated at the hospital; is
20 that correct?

21 **A. That's correct. Yes.**

22 **Q.** Do you know whether in the medical
23 records they indicate that they believed that she
24 was dehydrated?

25 **A. I don't know if that's mentioned in the**

1 **medical records. But I do have the laboratory**
2 **data, which I'd be happy to review.**

3 **Q.** And the laboratory data, I think you
4 mentioned, involved the BUN and the creatinine, and
5 you also indicated the concentration of the urine.

6 **A. Yes.**

7 **Q.** And what are those figures for
8 Ms. Neuman?

9 **A. The -- and I'd have to go specifically to**
10 **the record for all of those concentrations. On**
11 **Bates No. 2841 --**

12 **Q.** Okay.

13 **A. -- the earliest documented chemistry**
14 **panel was done at 7:00 o'clock on the 8th.**

15 **Q.** Okay.

16 **A. If you look at the bottom right-hand**
17 **corner underneath "chemistry general," you will see**
18 **a BUN of 15 in a normal reference range between**
19 **7 and 17. So a normal BUN upon admission. She**
20 **also had a sodium of 137. The normal reference**
21 **range is 133 to 148, and so normal. Her creatinine**
22 **was 1.0 at the same time. Actually, that's not**
23 **correct. I have to go backwards for the**
24 **creatinine. I misspoke. The creatinine is 2.2,**
25 **and it is elevated.**

1 **Q.** The creatinine is elevated?

2 **A. Yes. At 2.2.**

3 **Q.** Do you know, Doctor -- have you
4 reviewed -- and I'm referring to Exhibit 366 -- the
5 report dated October 15th, signed on October 19th,
6 by a Dr. Martin?

7 **MS. DO:** Your Honor, may I get a page number?

8 **MR. HUGHES:** Bates 3004.

9 **MS. DO:** Thank you.

10 **THE WITNESS:** Before we go there,

11 Mr. Hughes --

12 **Q.** BY MR. HUGHES: Let me ask you a
13 question.

14 **A. -- I just need to finish the last**
15 **question.**

16 **Q.** Okay.

17 **A. I wasn't finished.**

18 **Q.** Okay. Please continue.

19 **A. The other criteria that I did want to**
20 **mention was the urine specific gravity.**

21 **Q.** Okay.

22 **A. Which is also a very good marker of**
23 **dehydration. As you become more and more**
24 **dehydrated, your urine becomes more and more**
25 **concentrated, and I think we've all noticed that**

1 **with ourselves at certain times.**

2 **The urine specific gravity at the same**
3 **time those original lab tests were taken was 1.004,**
4 **almost at the bottom end of the normal reference**
5 **range, meaning her urine was very unconcentrated or**
6 **not concentrated.**

7 **Q.** And if Ms. Neuman had gone into that
8 sweat lodge with a belly full of water and
9 succumbed to excessive heat during the two hours,
10 what would you expect to see these levels at?

11 **A. Well, as I've testified before,**
12 **significant dehydration is a part of the process.**
13 **And if somebody died of heat stroke --**
14 **nonexertional heat stroke, I would expect to see**
15 **dehydration.**

16 **Q.** And part of what process, Doctor?

17 **A. I'm sorry?**

18 **Q.** You said significant dehydration is part
19 of the process. What process are you referring to?

20 **A. Of nonexertional heat stroke? It's part**
21 **of the mechanism of injury.**

22 **Q.** Do you have an opinion, then -- on this
23 record from October 15th, how long had Ms. Neuman
24 been in the hospital at that point in time?

25 **A. On October 15?**

1 Q. Yes, sir.
 2 A. **So approximately seven days.**
 3 Q. Do you have an opinion why Dr. Martin
 4 indicated, so far carbon monoxide poisoning has
 5 been ruled out? And I'm talking about that
 6 paragraph there. Preliminary drug screen was
 7 negative? The working diagnosis is dehydration,
 8 heat stroke leading to multi-organ failure?
 9 Do you know on what basis the doctor had
 10 a working diagnosis of dehydration for Ms. Neuman?
 11 A. **No, I don't. I can't speak for him.**
 12 Q. Is dehydration something that can also be
 13 observed in the -- physically observed in a
 14 patient?
 15 A. **It can be. There are some physical exam**
 16 **signs that are consistent with dehydration.**
 17 Q. Tenting of the skin?
 18 A. **That is one of them. Yes.**
 19 Q. What are some of the other physical exam
 20 signs?
 21 A. **Well, from history, decreased urine**
 22 **output would be another. Dry mucus membranes would**
 23 **be another.**
 24 Q. Now, on this list I think the final
 25 element is diarrhea. And is it your opinion, then,

1 that the existence of Ms. Neuman having diarrhea is
 2 a factor you relied upon in determining that
 3 organophosphates was a possible cause of death?
 4 A. **You asked me to list all the factors that**
 5 **were associated or not associated with those two**
 6 **entities. Diarrhea is associated with**
 7 **organophosphate toxicity, so it's supporting**
 8 **evidence. It's not conclusive evidence. No.**
 9 Q. Is it a factor that you used in reaching
 10 your conclusion?
 11 A. **It's certainly supportive of my**
 12 **conclusion. Yes.**
 13 Q. Is diarrhea something that could be
 14 secondary to a person who is critically ill in a
 15 hospital?
 16 A. **Yes.**
 17 Q. And have you seen that in patients who
 18 are not suffering from organophosphates?
 19 A. **Yes.**
 20 Q. And what sort of patients have you seen
 21 diarrhea in in the hospital?
 22 A. **There are many different causes of**
 23 **diarrhea. And that's why I stated that it was**
 24 **supportive of the diagnosis, but certainly not**
 25 **diagnostic of the diagnosis. And many different**

1 **entities can cause diarrhea, from infection to**
 2 **decreased blood supply to the bowel, et cetera.**
 3 Q. Do you have an opinion, Doctor, then --
 4 I'm going back to the blood pressure -- why it is
 5 that Ms. Neuman's blood pressure went from being
 6 shockingly low at the scene to that 200 level and
 7 then began to trend downwards after she was at the
 8 hospital?
 9 A. **My testimony is that it is associated**
 10 **with organophosphate toxicity. So that's a**
 11 **possibility. And that it's not typically**
 12 **associated with heat stroke. I don't have a**
 13 **specific diagnosis for that. No.**
 14 Q. Can we, then, go to the next of the
 15 critically ill patient, Sidney Spencer.
 16 Is there anything different about the
 17 presentation of these factors that you consider
 18 significant for Ms. Spencer than you did for
 19 Ms. Neuman?
 20 A. **No. They're all similar.**
 21 Q. Okay. And I'm not going to belabor the
 22 point and go through them.
 23 Can you give us the factors for Tess
 24 Wong. Is there anything different about these
 25 factors -- the dehydration, the mental status

1 change, the respiratory failure, and the pinpoint
 2 pupils -- that are different than as they
 3 manifested themselves in the other patients that
 4 you've talked about?
 5 A. **No. So once again there was no evidence**
 6 **of dehydration. We've talked about the mental**
 7 **status changes. We've talked about the respiratory**
 8 **failure. And she also had pinpoint pupils.**
 9 Q. I noted on all of these lists that list
 10 things that are consistent or inconsistent with
 11 heat stroke or organophosphates, you've not
 12 included recorded temperatures.
 13 A. **All right. That's correct. Yes.**
 14 Q. Can you explain why you've not included
 15 temperatures when it's listed on your chart here.
 16 A. **And the temperatures aren't listed there,**
 17 **but it is on the chart that none of these**
 18 **patients -- none of the critically ill patients had**
 19 **a significantly elevated temperature. The one**
 20 **factor, though, to keep in mind is that the**
 21 **temperatures were taken 40 minutes to an hour after**
 22 **they were removed from the sweat lodge. So there**
 23 **is no documented elevated temperature. But they**
 24 **were -- the temperatures were delayed when they**
 25 **were taken.**

1 Q. Doctor, if a reliable rectal temperature
2 had been taken of the three people who died as they
3 were leaving the sweat lodge and the temperature
4 was 105 degrees, would that change your opinion as
5 to their primary cause of death?

6 A. If there was a documented temperature of
7 105 degrees, it's almost impossible to ignore that.
8 Yes.

9 Q. And what would your opinion, then, be if
10 we had a documented temperature of 105 degrees at
11 the time they left the sweat lodge?

12 A. So if they had a documented temperature
13 of 105 degrees, mental status changes, and
14 anhidrosis, I would make a diagnosis of heat
15 stroke.

16 Q. I wanted to go through just a couple of
17 other areas of your testimony from yesterday. You
18 indicated that some of the signs that you might see
19 for heat exhaustion was something called "tetany"?

20 A. Yes.

21 Q. Do you recall that?

22 A. Yes.

23 Q. Can you explain again what tetany is.

24 A. Tetany is, basically, a sustained
25 contraction of the muscle.

1 Q. And I believe you said yesterday it was
2 cramping?

3 A. Well, it's severe cramping. And it's
4 cramping that doesn't go away. Tetany is a
5 sustained contraction of the muscle.

6 Q. And would you agree with me that tetany
7 actually is something that's mentioned in this
8 "Heatstroke" article by Robert S. Helman that's
9 included?

10 A. Yes.

11 Q. And it is included as something that can
12 occur or you might expect to see as a person is
13 progressing along that line of heat-related
14 illnesses?

15 A. Worsening heat exhaustion. Yes.

16 Q. Were you aware that the testimony in this
17 case is that in the prior year in a very similarly
18 run sweat lodge ceremony, a woman suffered from a
19 condition that was described as her laying on the
20 ground cramped up, unable to move, and eventually a
21 doctor on scene had her put in a shower with water
22 pouring on her?

23 MS. DO: Objection. Misstates the testimony.

24 THE COURT: Overruled.

25 THE WITNESS: I think I've testified

1 previously -- well, first of all, I'll answer the
2 question, that, no. I wasn't aware of that
3 testimony. And I think I've testified previously
4 that I think there is no doubt that most, if not
5 all, of these participants were suffering from some
6 form of heat exhaustion or mild heat-related
7 illness, particularly with the commonality of the
8 symptoms of all the participants: headache, nausea
9 syncope.

10 Now, you're describing cramping in a
11 previous ceremony in years past. Those are all
12 symptoms of heat exhaustion or mild heat-related
13 illness. And I've testified that I believe they
14 probably -- most, if not all, of the participants
15 were experiencing some form of heat exhaustion or
16 mild heat-related illness.

17 Q. BY MR. HUGHES: And let me ask you about
18 that. On this chart underneath Ms. Wong, there are
19 a number of other names. And they haven't been
20 shaded in. Do you have an opinion as to the cause
21 of these people's illness or discomfort that led
22 them to go to the hospital?

23 A. Well, they're not shaded in because
24 they're not considered critically ill patients.
25 And they all had many symptoms in common,

1 particularly the ones I've mentioned -- headache,
2 nausea. And some had described passing out while
3 participating in the sweat lodge ceremony. All of
4 those symptoms are consistent with mild
5 heat-related illness.

6 Q. You indicated, I believe, yesterday with
7 respect to Ms. Neuman, you mentioned that her
8 temperature that was taken at the hospital was not
9 consistent with heat stroke because it was higher
10 than the baseline temperature taken at 6:25?

11 A. I thought it was interesting that her
12 highest elevated temperature -- and I'll go back to
13 the chart -- was 101.66 degrees Fahrenheit. And
14 just prior to that -- approximately 20 minutes or
15 so prior to that, she had a temperature -- axillary
16 temperature of 97.5 degrees Fahrenheit.

17 And I did talk about how axillary
18 temperatures can be artifactually lower than core
19 temperatures, but really not more than a degree or
20 two. So I believe that the axillary temperature or
21 the true body temperature was probably lower at
22 6:25 than it was subsequently at 6:45 or 6:46.

23 And that's not consistent with heat
24 stroke where you have a low body temperature, and
25 then it begins to elevate over time if you're taken

1 **outside of that heated environment. So I was**
 2 **speculating of possible other causes for that**
 3 **increased temperature at that particular time.**

4 **Q.** Now, do you know physically what was
 5 going on with Ms. Neuman around the time and prior
 6 to the time that that armpit temperature -- or the
 7 axillary temperature that you're using as your
 8 baseline was taken?

9 **A.** **Do you have a specific example of what**
 10 **was going on?**

11 **Q.** Well, first of all, let me ask you. Do
 12 you -- are you aware?

13 **A.** **I don't recall the specific circumstances**
 14 **when either of those temperatures were taken.**

15 **Q.** Do you know that, for example, she had
 16 had her clothing removed?

17 **A.** **At what time?**

18 **Q.** When she was taken out of the sweat lodge
 19 and CPR was being performed. Assuming
 20 hypothetically witnesses testified that at that
 21 point -- actually there is no CPR on Ms. Neuman.
 22 But when she was taken out, she was wetted down,
 23 she was hosed down. And assuming hypothetically
 24 the witnesses testified that when the medics began
 25 to work on her when they first arrived -- and we

1 have that time, I believe, was 5:45 -- at least at
 2 that point in time people saw that her clothing had
 3 been removed.

4 **MS. DO:** Your Honor, I'm going to object.
 5 There has been no testimony regarding her being
 6 hosed down. If this is phrased as a hypothetical,
 7 then I'll withdraw my objection.

8 **THE COURT:** And that was the case with the
 9 previously question as well.

10 **Mr. Hughes,** in phrasing the question, put
 11 it in a form --

12 **MR. HUGHES:** Okay.

13 **Q.** It is hypothetical. And I think I
 14 misspoke. The testimony hypothetically had been
 15 that buckets of water had been dumped on her, not a
 16 hose, but buckets of water.

17 And are you aware of the type of buckets
 18 that were at the scene, the size?

19 **A.** **No.**

20 **Q.** There were five-gallon buckets at the
 21 scene. So assuming that had happened and she's
 22 laying out in this temperatures that we discussed
 23 yesterday with her clothing removed, with the
 24 buckets of water on her, her armpits exposed, would
 25 you expect that that temperature, then, that would

1 be taken in the armpit would be a reliable
 2 baseline?

3 **MS. DO:** Objection, Your Honor, to relevance.
 4 That's not the evidence.

5 **THE COURT:** Phrased as a hypothetical, you may
 6 answer in that fashion.

7 **THE WITNESS:** So if you're suggesting that a
 8 thermometer placed in cold water that's sitting on
 9 the skin would provide an artifactually low
 10 temperature, yes. That's true.

11 **Q.** **BY MR. HUGHES:** I'm suggesting -- or
 12 asking you if her body was exposed to those
 13 conditions that I've just described and her armpits
 14 are out and open to where the air is, they're not
 15 being kept warm by some sort of clothing, and
 16 they've had buckets of water dumped on her and
 17 these temperatures with that wind -- sustained wind
 18 and wind gusts, would you as a -- if you were her
 19 treating doctor, would you consider that armpit
 20 temperature to be a reliable baseline?

21 **A.** **Well, I mean, that's a critical detail**
 22 **whether she's still wet when that temperature is**
 23 **taken. Because if her skin is dry, it's an**
 24 **accurate reflection of what her actual temperature**
 25 **is.**

1 **If her skin is wet and you're placing the**
 2 **thermometer in wet water sitting on top of the**
 3 **skin, it would produce an artifactually low**
 4 **temperature. So I think that's a critical**
 5 **distinction with your hypothetical question.**

6 **Q.** Well, what would you do as her treating
 7 doctor with this information? Would you consider
 8 that axillary temperature, the armpit temperature, to
 9 be a reliable baseline?

10 **A.** **At that temperature? Yes.**

11 **Q.** Do you know whether the EMS report
 12 documents whether her skin was moist or not?

13 **A.** **Her skin is described as cool and clammy.**

14 **Q.** And what does "clammy" mean?

15 **A.** **Moist.**

16 **Q.** Doctor, we've talked a little bit, I
 17 believe it was yesterday, about whether you had
 18 been able to -- or whether you had done any
 19 research into any possible household chemicals that
 20 could cause the sort of deaths and casualties that
 21 we saw in this event. And I believe you indicated
 22 that you had not done that because that was outside
 23 of the -- your scope of expertise.

24 **A.** **I made that comment that when you started**
 25 **talking about specific organophosphates and their**

1 different rates of absorption, that's my best
2 recollection. I haven't looked into household
3 pesticides because if this is an organophosphate
4 toxicity, we have no idea what the source is,
5 whether they're industrial, household. I don't
6 know what they are.

7 Q. And that's a good point. Assuming
8 hypothetically there were no organophosphates that
9 were used -- and I'll ask this one directly.
10 Assuming there has been no testimony, no evidence,
11 in this trial that any organophosphates were used
12 at Angel Valley, how would that affect your
13 determination?

14 A. Well, I think the big issue here is
15 trying to reconcile this constellation of signs and
16 symptoms that each critically injured patient has.
17 And we've just gone through the list one by one.
18 Four different patients all had the exact same
19 constellation of symptoms. They have pinpoint
20 pupils. They have early respiratory failure. They
21 have mental status changes which are reversible
22 except for Ms. Neuman. And none of them have
23 documented high temperatures, although I didn't put
24 it up there. None of them have a documented high
25 temperature.

1 They all had the same constellation of
2 signs and symptoms that are not specific for heat
3 stroke, and they're much more specific for other
4 entities, like organophosphate toxicity. That's
5 the best I can answer that question.

6 And if you have -- if you have evidence
7 that there are no organophosphates present anywhere
8 in the soil, tarp, I don't know how to answer that.
9 All I'm saying is that these constellation of signs
10 and symptoms are remarkably similar. And they're
11 the exact same constellation of signs and symptoms
12 that you would see in organophosphate toxicity.

13 Q. Have you read any literature on
14 organophosphate overdose?

15 A. I was given an article by Goldfrank.
16 It's just a textbook article.

17 Q. Well, who gave you that article?

18 A. The defense.

19 Q. And when were you given that?

20 A. And I don't recall the specific date that
21 I was given the article.

22 Q. Were you provided an article called
23 "Organophosphate Overdose" by a fellow by the name
24 of Zacharrev Sergei?

25 A. Was that out of an occupational -- what

1 was the title of the textbook, if you know?

2 Q. It's from the St. Louis University, and
3 it's an article that they have on their web page
4 for the teaching of residents.

5 A. No. I'm not aware of that article.

6 Q. And Mr. Zacharrev is an MD. The article
7 was published --

8 MS. DO: Your Honor, I object to this. I
9 haven't been provided with a copy of this. I don't
10 know what he's referring to.

11 THE COURT: Sustained.

12 Q. BY MR. HUGHES: Doctor, do you know
13 whether in diagnosing a poisoning by
14 organophosphates you look to see if there is a
15 smell or a particular odor, a fetid odor or a
16 garliclike odor in the area where the patient was
17 or on the patient's clothing or person?

18 A. Some of the patients that have
19 organophosphate toxicity can have a peculiar odor.
20 Yes.

21 Q. Do you know whether there has been any
22 testimony that there was a peculiar fetid or
23 garliclike odor in the sweat lodge?

24 A. I can't answer that question. I don't
25 know.

1 Q. Assuming hypothetically there wasn't, how
2 would that impact your decision?

3 A. It still doesn't explain the signs and
4 symptoms in this case.

5 Q. Doctor, assuming now hypothetically that
6 these patients here, the critically ill patients,
7 were poisoned by organophosphates, what would
8 the -- their chance of treatment or improvement be
9 if they were brought out of the sweat lodge and
10 treated early on when they began to manifest
11 symptoms?

12 A. And all I can talk about is the
13 management of cholinesterase -- or organophosphate
14 toxicity. The primary intervention is to support
15 their breathing function or respiratory function,
16 which would involve either providing supplemental
17 oxygen or intubation. After that you can give
18 medication that either temporarily or permanently
19 negates the effect of the organophosphates. All I
20 can say is that the sooner that that's initiated,
21 the more likely you will have a positive outcome.

22 Q. With respect to a person whose heart has
23 stopped beating, are you aware in this case,
24 assuming hypothetically, that when Ms. Brown and
25 Mr. Shore were found, their hearts were no longer

1 beating?

2 **A. Yes.**

3 **Q.** If you were a treating physician and you
4 have a patient whose heart has stopped beating,
5 what does the passage of time from the moment the
6 heart stops beating have to do with the chances for
7 successful resuscitation?

8 **A. So the quicker the intervention, the more**
9 **likely that somebody will be able to be**
10 **resuscitated. That's the general answer to that.**

11 **Q.** What's a shockable rhythm?

12 **A. So -- and generally a shockable rhythm is**
13 **ventricular fibrillation for tachycardia.**

14 **Q.** With the passage of time -- if a person's
15 heart stops beating, with the passage of time do
16 they lose shockable rhythm?

17 **A. Yes.**

18 **Q.** And how -- what sort of time are we
19 talking about?

20 **A. That's a difficult one to answer because**
21 **ventricular tachycardia -- ventricular tachycardia**
22 **can be intermittent. It can degenerate into**
23 **ventricular fibrillation. But generally once you**
24 **enter into those rhythms, you're talking about**
25 **minutes or so before they degenerate into a**

1 **terminal rhythm, like asystole.**

2 **Q.** Is it possible with the passage of, say,
3 15 minutes in time, you could have a patient go
4 from having a shockable rhythm to no shockable
5 rhythm?

6 **A. Yes. It's possible.**

7 **Q.** It's impossible to -- I guess it can be
8 interpreted different ways. Is it likely that a
9 patient could go over 15 minutes -- over about a
10 15-minute period of time from a shockable rhythm to
11 no rhythm?

12 **A. It's a dangerous rhythm, both of those,**
13 **ventricular tachycardia and particularly**
14 **ventricular fibrillation. And most people once**
15 **they enter into ventricular fibrillation would**
16 **probably rapidly degenerate on to asystole and**
17 **death.**

18 **Q.** You mentioned a few minutes ago that if
19 these people had been suffering from
20 organophosphates and received early, rapid care,
21 there are certain drugs that can be given. Can you
22 tell us what those drugs are.

23 **A. So I mentioned those earlier. One is**
24 **atropine, and the other one is pralidoxime, or**
25 **2-PAM.**

1 **Q.** And were those drugs administered to any
2 of the patients in this case?

3 **A. It doesn't appear that those drugs were**
4 **administered for the purposes of organophosphate**
5 **toxicity. It's my best recollect that at least one**
6 **of the critically ill patients received atropine in**
7 **a very small dose, but that was secondary to**
8 **cardiac dysfunction.**

9 **Q.** And I believe you testified that for
10 atropine because it's short acting, sometimes a
11 very large dose is given?

12 **A. That's correct. Yes.**

13 **Q.** Doctor, with respect to the testimony
14 that we've heard in -- that you may have had some
15 sort of a transcript provided from Dr. Dickson,
16 Dr. Dickson -- do you recall Dr. Dickson giving
17 some testimony about pulmonary edema in persons
18 suffering from heat stroke?

19 **A. Yes. I don't remember the specific**
20 **testimony. You would have to refresh my memory.**

21 **Q.** Well, do you recall that for pulmonary
22 edema from somebody suffering from heat stroke,
23 Dr. Dickson talked about, and I believe there's
24 something similar you talked about with Ms. Do
25 yesterday, fluids coming from the lungs, even

1 produced perhaps from the body that inundate into
2 the lungs and cause the pulmonary edema?

3 **A. Can you repeat the question, please?**

4 **Q.** Let me ask it a different way.

5 Dr. Dickson also testified that for a patient
6 suffering from organophosphate exposure, based on
7 his research and his experience treating farm
8 workers who have been exposed to industrial
9 organophosphates, that you would have very
10 excessive, heavy salivation where it would come
11 down into your lungs.

12 **A. So part of the constellation of signs and**
13 **symptoms is increased salivation as well as**
14 **lacrimation. It's possible that some of those**
15 **secretions certainly could go backwards into the**
16 **trachea, and a patient could aspirate those**
17 **secretions, particularly if he or she was obtunded**
18 **or had altered mental status.**

19 **I think the suggestion in his testimony,**
20 **though, was that that was the cause of the**
21 **pulmonary edema. And that's where I disagreed,**
22 **that the cause of the pulmonary edema in**
23 **organophosphate toxicity is from increased**
24 **secretions of fluid within the lungs themselves.**

25 **Q.** And would you agree, then, with

1 Dr. Dickson's assessment that if there was no sign
2 of this excessive salivation in the lungs that were
3 found during the autopsy, they probably did not
4 drown on their own spit?

5 **A. Well, I've never suggested anybody**
6 **drowned in their own spit.**

7 **Q.** Well, I'm asking would you agree with
8 that assessment by Dr. Dickson that because the
9 autopsy reports for Ms. Brown and Mr. Shore did not
10 include that information, you can assume that they
11 did not drown from their own spit?

12 **A. What information was included in the**
13 **autopsy report is that there was significant**
14 **pulmonary edema or fluid in their lungs. And so**
15 **I'm not sure how to answer drowning from your own**
16 **spit. What I can say is that the autopsy**
17 **demonstrated pulmonary edema, which is commonly**
18 **associated with organophosphates.**

19 **Q.** Well, I believe you testified, though,
20 that as a medical examiner, when you were examining
21 a lung, you would be able to tell if that was the
22 frothy, frank pulmonary edema or if it was spit
23 that had been somehow aspirated into the lung.

24 **A. That's correct. Yes.**

25 **Q.** And would you agree, then, that in the

1 case of Ms. Brown and Mr. Shore, that there was no
2 mention of that sort of substance, the spit as
3 opposed to the frank pulmonary edema, in those two
4 person's lungs?

5 **A. That's correct. There was no mention of**
6 **that in the autopsy report.**

7 **Q.** And would you agree, then, with
8 Dr. Dickson's assessment that if there is no
9 mention of that in the report, it is a safe
10 assumption to assume that those two patients died
11 from pulmonary edema from fluid that was coming
12 into their lungs from somewhere other than
13 aspirating spittle?

14 **A. I don't think the pulmonary edema was**
15 **associated with aspirated salivation or secretions.**

16 **Q.** My question, then, Doctor, is is that
17 some common ground, if you would, that you would
18 have with Dr. Dickson that at least Ms. Brown and
19 Mr. Shore did not aspirate -- in your opinion, did
20 not aspirate spittle to the point -- spit or drool
21 got in their mouths to the point that that caused
22 their pulmonary edema?

23 **A. There was no documentation of a large**
24 **amount of saliva present in the mouth, around the**
25 **mouth, or in the airway. That's correct.**

1 **Q.** Can you tell me the patients where
2 excessive salivation was noted?

3 **A. I did not see that documented in the**
4 **medical records.**

5 **Q.** And did you review the records, then, for
6 all 18 of the patients?

7 **A. Yes.**

8 **Q.** Doctor, we had talked yesterday a little
9 bit about the cooling of a body. And I believe you
10 indicated that with aggressive cooling methods, a
11 human body can cool between .1 and .2 degrees
12 Celsius in an hour -- per minute; is that correct?

13 **A. I testified yesterday that roughly**
14 **.1 degree Celsius per hour. Yes.**

15 **Q.** And am I correct, then, in saying you
16 said it was between .1 and .2 degrees?

17 **A. Yeah. I did not say that yesterday. I**
18 **said .1 is my recollection of the maximum cooling**
19 **rate.**

20 **Q.** Okay. And can you convert that, then?
21 If it's .1 degrees Celsius, then, per minute, can
22 you tell us what that would be per hour?

23 **A. So in Celsius?**

24 **Q.** Yes. And then I'm going to have you
25 convert it into Fahrenheit.

1 **A. Can I use my calculator?**

2 **Q.** If that will help you. I would certainly
3 need to do that.

4 **A. So if they're decreasing the temperature**
5 **by .1 degree per minute, so that would be 6 degrees**
6 **in an hour Celsius. And then if somebody has a**
7 **calculator, they can do that conversion for me.**

8 MR. LI: Your Honor, if I may approach.

9 THE COURT: Yes.

10 **Q.** BY MR. HUGHES: I believe on the chart --
11 well, I don't want to interrupt you while you're
12 working.

13 **A. So it's just about 11 degrees per hour**
14 **Fahrenheit.**

15 **Q.** 11 degrees per hour Fahrenheit.

16 This chart that you have -- were you the
17 one that compiled this chart?

18 **A. I helped compile this chart. Yes.**

19 **Q.** And the -- there is a conversion formula
20 down there which is -- which is listed on the
21 chart. A lot of the records that we have in
22 evidence, the jury is going to be getting soon,
23 have Celsius as opposed to Fahrenheit.

24 Can you explain how to use that
25 conversion formula so that when the jurors are back

1 deliberating they can -- and if you need to use the
2 board, you can -- so that they can figure out how
3 to convert from Fahrenheit to Celsius and maybe
4 from Celsius to Fahrenheit.

5 **A. So it's pretty easy to go from Celsius to**
6 **Fahrenheit. It's just 1.8 plus 32 degrees. And**
7 **that's written on the bottom.**

8 **Q.** And you said 1.8. So if I had -- if I
9 had a temperature of 10 degrees Celsius, I'd
10 multiply it by 1.8?

11 **A. Yes.**

12 **Q.** And that would give me 18?

13 **A. Yes.**

14 **Q.** And then I'd add 32 degrees to that?

15 **A. That's correct.**

16 **Q.** And if my math is good, that would be
17 about 50 degrees?

18 **A. That would be -- I wasn't tracking you,**
19 **but that sounds right.**

20 **Q.** Okay. How would you go back the other
21 way if the jurors wanted to convert from Fahrenheit
22 to Celsius?

23 **A. So it's minus 32. And then I don't**
24 **remember the conversion fraction for going**
25 **backwards. I'd have to look it up.**

1 **Q.** Okay. Do you have anything with you that
2 you could look that up on?

3 **A. I'd have to access the Internet to look**
4 **it up.**

5 **Q.** Okay.

6 **A. And I believe the correct conversion is**
7 **5/9, so it would be about .9 and minus 32 for**
8 **Fahrenheit to Celsius.**

9 **Q.** Doctor, have you yourself used
10 organophosphates around the home or your office
11 or --

12 **A. I've used pesticides, and -- but I don't**
13 **remember whether organophosphates were present or**
14 **at what concentration or what organophosphates, if**
15 **they were present.**

16 **Q.** When you were involved in this case, did
17 the fact that, in your opinion, people may have
18 died from organophosphates peek your curiosity to
19 go look under the sink and see what was in whatever
20 you may have had?

21 **A. I never did. No.**

22 **Q.** Is it your testimony, Doctor, that the
23 three people in this case who died died from
24 organophosphate poisoning?

25 **A. No. And it's my previous testimony that**

1 **all their signs and symptoms were consistent with**
2 **that diagnosis. But unfortunately no testing was**
3 **performed to confirm that, and no testing can be**
4 **performed at this time. So it's my opinion that**
5 **all the signs and symptoms are consistent with**
6 **organophosphates, but there is no way we can**
7 **absolutely confirm that.**

8 **Q.** No way to confirm it. And you've
9 testified that -- or I don't want to put words in
10 your mouth. What was your testimony regarding the
11 consideration if there has been no evidence
12 whatsoever that any organophosphates were used
13 anywhere around these victims?

14 **A. I think you asked me that question**
15 **before. And my answer was -- remains the same,**
16 **that all the signs and symptoms of the critically**
17 **ill patients are all similar, and they're all**
18 **consistent with organophosphate exposure or**
19 **toxicity.**

20 **Q.** And those signs and symptoms are the
21 miosis?

22 **A. That's correct.**

23 **Q.** And you'd agree with me that at least in
24 the medical literature that you provided, it
25 indicated that miosis is something that you could

1 expect to see in heat stroke?

2 **A. In some patients in heat stroke they can**
3 **have miosis. Yes.**

4 **Q.** Well, would you agree with me that you
5 looked through the literature?

6 **A. Yes.**

7 **Q.** And would you agree with me that the
8 literature that you provided indicates that with
9 respect to heat stroke and under the clinical sign
10 of eyes, it differentiated between wide pupils,
11 normal pupils, fixed pupils, and then the miosis,
12 the pinpoint pupils?

13 **A. That's correct. But I'm not sure how**
14 **that differs from my testimony.**

15 **Q.** Well, and I guess my question is, I
16 thought I heard you just say that in some patients
17 with heat stroke you could expect to see miosis?

18 **A. Well, that's what that statement implies.**
19 **In some patients you will see small pupils. Some**
20 **patients you will see normal size pupils. Some**
21 **patients you will see large size pupils. And those**
22 **that have brain injury will have fixed and dilated**
23 **pupils.**

24 **Q.** The statement itself, though, the type of
25 pupils, the fact that you could expect to see

1 miosis, does that give you some pause, then, to use
 2 miosis as one of your diagnostic criteria for
 3 organophosphates but not for heat stroke?
 4 **A. Not at all. I think I fully explained**
 5 **that in the past as well. But what's curious about**
 6 **miosis is that that's the most common presenting**
 7 **sign in organophosphate toxicity. I testified that**
 8 **it was present in up to 85 percent of people who**
 9 **are exhibiting organophosphate toxicity.**

10 **There is no specific pupil size**
 11 **associated with heat stroke. It can be small,**
 12 **large, or normal. And if they have brain injury,**
 13 **it can be fixed and dilated.**

14 **Q. So the diagnostic criteria that you're**
 15 **using is something that you would expect to see in**
 16 **organophosphates?**

17 **A. Yes.**

18 **Q. And that you could expect to see in heat**
 19 **stroke?**

20 **A. That you could see in heat stroke.**
 21 **That's correct.**

22 **Q. Another factor I think you mentioned was**
 23 **the lack of dehydration?**

24 **A. That's correct.**

25 **Q. And you would agree with me that the**

1 medical literature, including from your own
 2 organization -- the position paper -- does not use
 3 dehydration anywhere as a diagnostic criteria?
 4 **A. And that -- if you're referring to the**
 5 **specific name article, we discussed that yesterday**
 6 **that it's not necessarily included -- well, it's**
 7 **not included in the diagnostic criteria. But I**
 8 **think we discussed that at length yesterday.**

9 **Also in the literature that I've provided**
 10 **you, though, were two cases of young, healthy**
 11 **people who were exposed to a superheated**
 12 **environment over a period of time. And of note is**
 13 **that both of them had significant dehydration and**
 14 **the medical literature supports that.**

15 **And the National Association of Medical**
 16 **Examiners takes that position because they will not**
 17 **always be able to test for dehydration, one.**
 18 **They're not always going to have vitreous fluid**
 19 **available to test. So oftentimes you won't have**
 20 **that objective data to evaluate your patient.**

21 **And second of all, that it is well-known**
 22 **that the older and younger people in our society**
 23 **are much more susceptible to the effects of heat,**
 24 **particularly the elderly who have underlying**
 25 **comorbid conditions.**

1 **Q. Then the --**

2 **A. That's why it wasn't included as a firm**
 3 **diagnostic criteria.**

4 **Q. The article mentioned that as the reason**
 5 **why it was not included?**

6 **A. That's my explanation to you as a board**
 7 **certified forensic pathologist who performs**
 8 **autopsies.**

9 **Q. And it's your opinion that because you**
 10 **may have putrefied or skeletonized remains that**
 11 **it's not always something you would expect to see?**

12 **A. That's correct. Yes.**

13 **Q. And that's your opinion why, then, they**
 14 **did not include that as a diagnostic criteria?**

15 **A. That's correct. Yes.**

16 **Q. Do you know why, then, they did talk**
 17 **about rectal temperature and they talked about when**
 18 **you have it, it's a diagnostic criteria, but when**
 19 **you don't have it, then you shouldn't let that**
 20 **stand in your way?**

21 **A. Well, oftentimes a rectal temperature is**
 22 **available because it's taken at the hospital. So**
 23 **that clinical data is available. And the elevated**
 24 **temperature is one of the -- that is the diagnostic**
 25 **criteria for diagnosing heat stroke.**

1 **Q. Is that available on a putrefied or**
 2 **skeletonized remains?**

3 **A. It is not available on decomposed**
 4 **remains. No.**

5 **Q. Just like dehydration would not be**
 6 **available?**

7 **A. That's correct. Yes.**

8 **Q. But yet your organization's position**
 9 **paper, they talk about the use of temperature when**
 10 **you have it, and don't use it when you don't. But**
 11 **they don't talk about use dehydration measurements**
 12 **when you have it, but don't use it when you don't.**

13 **A. Well, the other thing too that you're not**
 14 **considering is that you're not differentiating**
 15 **between exertional and nonexertional heat stroke as**
 16 **well. And so you have to make that distinction as**
 17 **well. It's been my testimony that in nonexertional**
 18 **heat stroke that dehydration is an integral**
 19 **component. And if you understand the physiology of**
 20 **how nonexertional heat stroke develops, there is no**
 21 **way you can't be dehydrated in that process.**

22 **The reason why people die of**
 23 **nonexertional heat stroke if they don't have**
 24 **underlying illness is that they sweat so much to**
 25 **control their body heat that at some point they**

1 don't have the fluid left to secrete sweat to cool
2 their body. And that's when their body temperature
3 starts to elevate.

4 That's why in those two examples that I
5 gave you from -- one from the medical literature
6 and one from our office, that those two patients
7 suffered from nonexertional heat stroke and that
8 both markedly dehydrated.

9 When you're referring to this paper,
10 we're mixing a little bit of apples and oranges.
11 And in some cases in forensic pathology, we don't
12 have that objective data.

13 Q. And it appears the position paper agrees
14 with you at least with respect to temperature, but
15 they for whatever reason are absolutely silent as
16 to using any measurement of dehydration as a
17 criteria.

18 A. I think I've explained that.

19 Q. Okay. And I'm going to go to the
20 examples because that is an area I wanted to ask
21 you a couple of questions about. And those
22 examples, I believe, include a case that you talked
23 about yesterday involving some young men who were
24 involved in a sweat lodge ceremony over in
25 Australia?

1 A. Yes.

2 Q. And I believe you testified yesterday
3 that the young men had not been taking fluids prior
4 to going into this ceremony?

5 A. I think specifically it mentioned that
6 they had reduced fluid intake. And that's how it's
7 stated in the article.

8 Q. And, in fact, the article talks about a
9 third person in that sweat lodge ceremony, but all
10 the witnesses had only seen those two who became
11 critically ill and one died. Those two are the
12 ones who had the reduced fluid intake?

13 A. That's how it's described in the article.
14 Yes.

15 Q. And the one where there is no information
16 as to whether the person was -- whether the person
17 had reduced fluid intake or not, that person
18 recovered fully?

19 A. Actually, both were described as having
20 reduced fluid intake. Yes.

21 Q. Well, would you agree with me that that
22 case talked about three people who were removed
23 from the sweat lodge?

24 A. Right. But I think you're misstating the
25 facts of that case in that the two that presented

1 to the hospital -- one was the 37 year old who
2 died. And there was also a 30 year old who
3 presented to the hospital as well. Both of them
4 were described as having -- or being somewhat fluid
5 restricted over the two days prior to presentation
6 at the hospital. And both were dehydrated, at
7 least one was clinically, and the other one
8 significantly dehydrated at the time of autopsy.

9 Q. But the third person who didn't go to the
10 hospital, they were taken out of the sweat lodge
11 and they survived, that third person -- there is no
12 information as from this witness who told police
13 she had noticed that the two victims had not been
14 drinking much fluid prior to entering the lodge?

15 A. Actually, there is no information about
16 that third victim at all that I recall in that
17 article.

18 Q. Would you agree with me it ends,
19 though -- it says, although the third -- this is
20 the woman's statement to the police quoted. And
21 I'm referring to your defense Bates No. Page 50 and
22 51 -- you probably have a copy of it in front of
23 you -- that the woman actually said that -- the
24 article says, one of the other participants
25 commented to police that she had noticed that the

1 two victims had not been drinking much fluid prior
2 to entering the lodge, although the third member of
3 their group who had not lost consciousness had
4 been.

5 A. I'd have to look at that. What page is
6 that?

7 Q. That would be on defense Bates No. 51.

8 A. Yes. That's what it says here.

9 Q. And would you agree with me that at the
10 end of that case report, it indicates that death
11 was, therefore, attributed to dehydration and
12 exposure to high environmental temperatures?

13 A. Yes. That's correct.

14 Q. If dehydration is a necessary component
15 of dying from nonexertional heat stroke, why would
16 they break that down to dehydration and exposure?

17 A. It's just a more specific way to state
18 that.

19 Q. Isn't it stating something that's
20 included?

21 A. If you write down nonexertional heat
22 stroke, that would be the possible implication.
23 But as we've talked about before, that the elderly
24 and the very young can die without exhibiting
25 significant dehydration if they have underlying

1 **medical conditions.**

2 **Q.** You mentioned yesterday another case
3 involving a young woman. I think you said she
4 was -- was it a Kinaaldá, a ceremony on the Navajo
5 reservation?

6 **A.** **It's a ceremony on the Navajo**
7 **reservation. Yes.**

8 **Q.** And what can you tell us about that case?
9 Because that was one that one of your colleagues
10 was involved in and you had the opportunity to
11 discuss with him during your meetings; correct?

12 **A.** **That's correct. Yes.**

13 **Q.** What can you tell us about that case?

14 **A.** **I think I reviewed that in detail**
15 **yesterday during my testimony. But it involved an**
16 **11-year-old girl with no underlying medical**
17 **problems. She was going -- undergoing a**
18 **right-of-passage-into-adulthood ceremony. I don't**
19 **know the specific name in Navajo. And that**
20 **ceremony involved four days of some fasting. She**
21 **was eating and taking in some fluids, but it was**
22 **reduced.**

23 **She was in an enclosed room, and the room**
24 **was constantly heated with a wood fire. I don't**
25 **know the temperature inside the room, but it**

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1 **certainly was elevated. On day No. 3, her**
2 **temperature was taken. It was 103.3. She had been**
3 **acting a little confused or out of it. She was**
4 **given some tea. And the following morning she was**
5 **found unresponsive.**

6 **Q.** You mentioned that she had reduced food
7 and fluids. What do you mean by that?

8 **A.** **They described it as being somewhat fluid**
9 **restricted, but I don't know how much she was**
10 **drinking or not drinking.**

11 **Q.** And you mentioned the tea. Do you know
12 what tea is used in a Kinaaldá?

13 **A.** **I don't know.**

14 **Q.** Do you know whether the tea -- did your
15 colleague mention whether the tea was a diuretic or
16 not?

17 **A.** **It was not mentioned. No.**

18 **Q.** What's a diuretic?

19 **A.** **A diuretic is something that makes you**
20 **excrete more fluid from the body so it promotes**
21 **urination and fluid excretion.**

22 **Q.** And I believe in your report, which
23 talked about that case, you indicated her cause of
24 death was attributed to hyperthermia and
25 dehydration?

1 **A.** **That's correct. Yes.**

2 **Q.** Do you know whether the decreased fluid
3 that this young lady experienced over the ceremony
4 had anything to do with the dehydration?

5 **A.** **So I think that if somebody's fluid is**
6 **restricted and they're placed in a heated**
7 **environment, that they'd be much more likely to**
8 **develop dehydration and subsequent heat stroke or**
9 **hyperthermia.**

10 **Q.** Are you aware of any cases involving --
11 we've talked about the first case you mentioned
12 with the two gentleman who had been observed not
13 drinking and then this case with this young,
14 11-year-old girl who was fluid restricted for a
15 number of days.

16 Are you aware of any cases that are
17 published involving the situation in our case,
18 where people go into the sweat lodge and they have
19 full bellies or may have full bellies of water?

20 **A.** **I'm not aware of any published cases, but**
21 **we've discussed that in the past too.**

22 MR. HUGHES: Your Honor, I see it's after
23 12:00.

24 THE COURT: Okay. Thank you.

25 We will take the noon recess, ladies and

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1 gentlemen. Please remember the admonition. And
2 assemble at the normal time of 1:30.

3 And we are in recess.

4 Thank you.

5 (Recess.)

6 THE COURT: The record will show the presence
7 of Mr. Ray, the attorneys, the jury.

8 And Dr. Paul is on the witness stand.

9 Mr. Hughes.

10 MR. HUGHES: Thank you.

11 **Q.** Doctor, in reaching your opinions, did
12 you consider the role that hypercapnia may have
13 played with the victims?

14 **A.** **And I think you have to define**
15 **hypercapnia and how it relates in this case.**

16 **Q.** Well, let me ask you that, then. What is
17 hypercapnia?

18 **A.** **So hypercapnia is increased carbon**
19 **dioxide in the blood and in the body.**

20 **Q.** And did you consider whether -- and what
21 are some of the causes of hypercapnia?

22 **A.** **So hypercapnia can be caused by oxygen**
23 **exclusion, meaning that there is decreased amount**
24 **of oxygen in the enclosed space and that as you're**
25 **utilizing oxygen, you're converting it to carbon**

1 **dioxide. And as that carbon dioxide builds up, it**
 2 **can become higher and higher in concentration in**
 3 **somebody's blood.**

4 **Some people with medical conditions, such**
 5 **as chronic obstructive pulmonary disease, who**
 6 **aren't ventilating properly through their lungs,**
 7 **can build up carbon dioxide. But, basically, it's**
 8 **associated with lack of oxygen entering the body.**

9 Q. Well, in this case, we have a sweat lodge
 10 structure that was covered with blankets, a number
 11 of layers, and then tarps on the outside. Are you
 12 aware of that?

13 A. Yes.

14 Q. And at least at the beginning there are
 15 55-, 56-some participants inside the sweat lodge.

16 A. Yes.

17 Q. Were you aware of that?

18 A. Yes.

19 Q. And then were you aware that a number of
 20 those participants have testified that in certain
 21 places, particularly in the back of the sweat
 22 lodge, they didn't feel like they were getting any
 23 fresh air whatsoever during those times when the
 24 flap would be open in between rounds?

25 And so I guess my question, then, is in

1 conjunction with that set of facts, is hypercapnia,
 2 in other words, exposure to too much carbon
 3 dioxide, something that could have been affecting
 4 some of these patients?

5 A. And what you're really suggesting is
 6 suffocation, meaning lack of oxygen entering the
 7 body. That's what you're suggesting. And
 8 certainly anytime somebody is contained within an
 9 enclosed space, that that would be a consideration.

10 One factor against that is that not
 11 everybody was affected in the -- inside the sweat
 12 lodge or at least not significantly affected.

13 The second thing is that none of the
 14 signs or symptoms that we have on the board are
 15 consistent with hypercapnia.

16 Q. Were you provided at all with the -- I
 17 think you mentioned you had reviewed Dr. Dickson's
 18 testimony?

19 A. Yes.

20 Q. And were you -- did you have a chance to
 21 look at his testimony about miosis being a sign of
 22 hypercapnia?

23 A. I've never read that miosis is a sign of
 24 hypercapnia or oxygen exclusion or suffocation.

25 Q. And did you see Dr. Mosley's -- have you

1 been provided with some sort of a transcript for
 2 Dr. Mosley?

3 A. No, I have not.

4 Q. And are you aware that he testified that
 5 in his research he determined that hypercapnia can
 6 cause this miosis?

7 A. I've never read that that's the case.
 8 No.

9 Q. Now, Doctor, have you treated a patient
 10 for hypercapnia?

11 A. So I think you would have to say I have
 12 treated a patient who has had oxygen exclusion or
 13 has suffocated. And -- yes. Both clinically and
 14 during forensic autopsy.

15 Q. Now, in the forensic autopsies, I think
 16 you testified earlier that once the body dies
 17 because of changes in muscles and whatnot, the
 18 eyes, even if they started in miotic state before
 19 death, can very quickly turn to normal or wide
 20 pupils?

21 A. That's correct. Yes.

22 Q. And that's your opinion, is it not, why
 23 when Kirby Brown and James Shore were seen by the
 24 medical examiners, they had large pupils?

25 A. That's correct. Yes.

1 Q. So in the cases, then, where you've
 2 been -- you were a doctor and actually treated a
 3 living patient for hypercapnia, do you recall what
 4 their pupils were like?

5 A. And it certainly doesn't stand out that
 6 any of them had miotic pupils. And I can tell you
 7 that it's one of the more common presentations
 8 either to a primary care physician or to an
 9 emergency room physician.

10 The disease that has the most common
 11 association with elevated carbon dioxide in the
 12 blood is emphysema or chronic obstructive pulmonary
 13 disease, the type of lung disease you get from
 14 smoking. These people can have 30, 40 percent or
 15 more of higher concentration of carbon dioxide than
 16 a person with normal lungs. And I've never noted
 17 in a patient with chronic obstructive pulmonary
 18 disease significantly miotic pupils.

19 Q. Do you recall Dr. Dickson testified --
 20 and I don't remember the exact period -- but
 21 something along the lines of a week or two weeks
 22 before his testimony here in this case, he had just
 23 treated a patient suffering from hypercapnia, and
 24 that patient had miotic pupils?

25 A. I did not read that. No.

1 **Q.** Do you have any reason to disagree with
2 Dr. Mosley and Dr. Dickson, then, that hypercapnia
3 can cause pinpoint pupils?

4 **A.** I've never seen any research documenting
5 that, and I've never seen it written in a textbook.

6 **Q.** Did you do any research in this case in
7 the area of hypercapnia?

8 **A.** And I've looked at differential diagnoses
9 for miotic pupils, and I did not see oxygen
10 exclusion or carbon dioxide listed.

11 **Q.** What are some of the things that can
12 cause miotic pupils?

13 **A.** The most common thing to cause miotic
14 pupils I talked about before would be opiates, such
15 as heroin, oxycodone, those types of classes of
16 other medication. Other pain medication, such as
17 methadone, can cause miotic pupils. Anything with
18 a cholinergic effect on the body, such as
19 organophosphates or nicotine or carbamates, can
20 also cause miotic pupils. This is really very
21 common.

22 **Q.** Now, do you recall Dr. Dickson testified
23 that he was board certified in hyperbaric medicine?

24 **A.** Yes.

25 **Q.** Can you tell us what hyperbaric medicine

1 is.

2 **A.** Hyperbaric medicine is the use of high
3 concentrations of oxygen either in treating diving
4 injuries or wound healing acceleration.

5 **Q.** And would you agree or disagree with
6 Dr. Dickson that hyperbaric medicine deals with the
7 gases in the blood at different temperatures -- at
8 different pressures?

9 **A.** Yes.

10 **Q.** And do you believe that the --
11 Dr. Dickson, who is board certified in bariatric
12 medicine, would have some specialized training in
13 gases, such as carbon dioxide, that would be in the
14 blood?

15 **A.** I'm not sure how you're making the
16 association between carbon dioxide and hyperbaric
17 medicine. When it's used for diving accidents,
18 it's used for, basically, nitrogen narcosis, or too
19 much nitrogen that's dissolved in the blood. The
20 reason they're put into a hyperbaric chamber or
21 high pressure chamber is to reduce the amount of
22 nitrogen that is actually dissolved into the blood.

23 And the other use of a hyperbaric chamber
24 is to introduce more oxygen into the tissues to aid
25 in wound healing.

1 **I don't know of the association generally**
2 **with carbon dioxide. So yes. It is a specialty of**
3 **gases per se, oxygen and nitrogen in particular.**
4 **But I'm not sure of the association with carbon**
5 **dioxide.**

6 **Q.** Well, a person who is in a low oxygen
7 environment with a heightened level of carbon
8 dioxide, would you expect -- where does that carbon
9 dioxide go in the body?

10 **A.** So it generally stays in the blood.

11 **Q.** And would you expect, then, that someone
12 who is trained in hyperbaric medicine, the study of
13 gases in the blood at different pressures, would
14 have studied carbon dioxide in the blood at various
15 pressures?

16 **A.** I just don't know the requirements for
17 board certification in bariatric medicine. It's
18 outside of my expertise.

19 **Q.** Do you have a basis, then, to disagree
20 with Dr. Dickson that, in his training and
21 experience, you would see miosis in cases of
22 hypercapnia?

23 **A.** The only way I can answer that is to say
24 that I've never read that in a research article or
25 a textbook.

1 **Q.** Now, you mentioned that you would expect
2 that if there was a higher level of carbon dioxide
3 in an area in the lodge, everybody in that area
4 would be experiencing similar symptoms?

5 **A.** That is, essentially, what I said, that
6 in a small, enclosed space, such as how the sweat
7 lodge is described, gases diffuse very easily. And
8 I would expect a relative similar concentration of
9 both oxygen and carbon dioxide throughout the
10 structure.

11 **Q.** Do you know what Mark Rock was doing from
12 time to time in his area of the sweat lodge?

13 **A.** I do not know.

14 **Q.** Do you know who was on either side of
15 Mark Rock?

16 **A.** No.

17 **Q.** Would it surprise you to learn that of
18 these patients where miosis was seen the -- two of
19 them were on the side of somebody on one side of
20 Mark Rock and two of them were on the side of
21 somebody on the other side of Mark Rock?

22 **A.** I'm not sure what the question is.

23 **Q.** Well, and let me ask you. If you can
24 assume that Mark Rock testified that once or twice
25 while he was laying face down in the dirt in this

1 back area of the sweat lodge, he would lift the
2 bottom of the tent up just a little bit to let some
3 air in and that he and the woman next to him were
4 breathing some of that air coming in.

5 **A. Was he doing that because he was warm, or**
6 **was he doing that because he couldn't breathe? I**
7 **don't know. I haven't heard the testimony.**

8 **Q.** Well, if he were to say he got some
9 relief getting that fresh air in, how would that
10 impact your hypothesis that the entire area of --
11 people in that entire area would be affected
12 similarly if one or two of the people in there had
13 a supplemental source of getting some air in?

14 **A. Right. But I don't really understand.**
15 **Relief from what?**

16 **Q.** Relief -- assuming that there was a
17 higher area of carbon dioxide in the back, and a
18 number of the -- assuming hypothetically a number
19 of participants have testified that the farther
20 back you go into the lodge away from the door, you
21 don't feel any sort of relief, any sort of fresh
22 air, when that flap is opened.

23 If you assume that, it's my understanding
24 that you were taking the opinion that all of the
25 people in that back area would display similar

1 symptoms if they were being exposed to carbon
2 dioxide.

3 **A. But I think -- what I'm saying is you're**
4 **talking in very general terms, feeling relief or**
5 **more uncomfortable in a certain area. I'm not sure**
6 **how that relates to carbon dioxide.**

7 **My testimony is that gases generally**
8 **diffuse throughout an enclosed space. And I'm**
9 **certainly not an expert in physics. But I remember**
10 **that from my physics courses, that gas will occupy**
11 **all available space in an enclosed container. I**
12 **think it would be very unusual to have a higher**
13 **concentration of carbon dioxide in one corner of a**
14 **closed container and a lower concentration in the**
15 **other.**

16 **And I'm not -- I really don't understand**
17 **the general terms of feeling relief or feeling**
18 **better, whether that pertains to them cooling off a**
19 **little bit with a breath of -- with a gust of fresh**
20 **air coming under the tent or whether they were**
21 **suffocating. It's unclear from your description.**

22 **Q.** Well, you realize that participants in
23 the back -- they didn't have any meter, for
24 example, to test for carbon dioxide. They can only
25 describe things in relative terms, like we weren't

1 getting any fresh air, for example, or we weren't
2 getting any cool air.

3 And you would agree there may be a
4 difference between them saying fresh air and cool
5 air?

6 **A. I don't see the distinction --**

7 **Q.** Okay.

8 **A. -- personally.**

9 **Q.** And then assuming the testimony from
10 Dr. Dickson and, I believe, from Dr. Mosley was
11 that if you're exposed to a higher level of carbon
12 dioxide and you can get out into some fresh air,
13 you can start blowing that carbon dioxide off and
14 replenishing the blood with the proper amount of
15 oxygen, would you agree with that statement?

16 **A. That's correct. Yes.**

17 **Q.** Okay. Now, if Mr. Rock and Ms. Gordon
18 were able to get a little fresh air by breathing it
19 in when they lift the flap up for a few seconds or
20 a minute and then put it down, would you agree that
21 could be an opportunity for them to blow off some
22 of that carbon dioxide and get some of the fresh
23 air into their bloodstream?

24 **A. The best answer I have for that question**
25 **is that if you are in a closed environment that has**

1 **a limited supply of oxygen and you're suffocating,**
2 **by taking a breath of fresh air outside of that**
3 **container, it would improve your level of**
4 **oxygenation. Yes.**

5 **Q.** Okay. And, Doctor, there is a good
6 question that I forgot to ask another witness so
7 I'm going to ask you. What advice would you give
8 to someone who, say, was coming from another state
9 or another area to this sweat lodge in Sedona?
10 What sort of survival advice would you give them if
11 they came to you and said, Doctor, I'm going to be
12 flying from Canada into Sedona doing a sweat lodge?

13 What would be the advice that you would give to
14 your patients to -- you know -- try and survive?

15 **MS. DO:** Objection, Your Honor. Relevance
16 based upon the Court's prior rulings.

17 **THE COURT:** Sustained as to form of the
18 question.

19 **Q.** **BY MR. HUGHES:** Would you give any
20 advice?

21 **MS. DO:** Objection, Your Honor.

22 **THE COURT:** Sustained.

23 **Q.** **BY MR. HUGHES:** Doctor, what are some
24 steps that a person could take to increase or to --
25 let's just say increase their chances of surviving

1 inside of an extremely hot environment for two
2 hours?

3 MS. DO: Objection, Your Honor. The same
4 relevance.

5 THE COURT: Counsel, bench conference, please.

6 And, ladies and gentlemen and Dr. Paul,
7 please feel free to stand and stretch while we --

8 (Sidebar conference.)

9 THE COURT: I know this was a jury question
10 that was presented to Dr. Dickson. It came up in
11 that context. And I let it in as a medical -- a
12 medical opinion in relating to what might counter a
13 heat illness, I guess, what preventive steps might
14 be done medically.

15 But I want Ms. Do to articulate the
16 objection.

17 MS. DO: Your Honor, I understand that the
18 state seems to be attempting to mirror the question
19 that the juror had asked. The Court did allow that
20 over the defense objection.

21 The state is now asking a question that,
22 essentially, mirrors the paragraph in Dr. Dickson's
23 report that we objected to that the Court
24 sustained. And that has to do with medical advice
25 you have to -- that you're providing to the

1 participants in terms of what should have been
2 done. And that's not relevant to a manslaughter
3 charge.

4 We have a lot of litigation on the issue
5 of duty. And the state is now asking questions
6 that are geared towards omissions that the Court
7 and the defense has discussed throughout this case
8 as being improper.

9 THE COURT: Mr. Hughes.

10 MR. HUGHES: Your Honor, it is a similar
11 question from what the juror had before. I think
12 it was a good question. There was a great deal of
13 argument. The Court determined it was relevant on
14 the causation issue. I believe it continues to be
15 relevant with this witness just as it was with
16 Dr. Dickson.

17 I'm not asking him what was in O'Connor's
18 report or what was in Dickson's report. I want him
19 to tell us what -- what his knowledge is.

20 MS. POLK: Could I have a moment with counsel?

21 THE COURT: Yes.

22 MR. HUGHES: And, Your Honor, Ms. Polk has
23 pointed out also that in our recent ruling on
24 Mr. Sundling, the Court indicated that medical
25 testimony on standard of what a reasonable person

1 would do could be relevant in the case. I would
2 submit that as a second reason why the question
3 should be allowed.

4 MS. DO: Your Honor, Dr. Paul is a medical
5 examiner. He's here to testify regarding cause of
6 death. What people should do to prepare for any
7 activity is not relevant to cause of death. The
8 state is attempting to interject a negligent
9 standard in that question. It's improper.

10 THE COURT: And Dr. Dickson did answer that
11 fully. I got the state's notice of transcript --
12 or filing of the transcript. And I had said
13 something like it seemed to me -- Ms. Polk's
14 recitation seemed to me was far more inclusive,
15 something like that. It turned out that the
16 testimony from Dr. Dickson was, I think, quite
17 close to what Ms. Polk had recited, use of the word
18 like "buddy system." It was the same idea that was
19 discussed.

20 So the fact is through their own witness,
21 this is already in, and I'm not going to duplicate
22 what's come in through their own witness.

23 So sustained.

24 MS. DO: Thank you, Your Honor.

25 (End of sidebar conference.)

1 Q. BY MR. HUGHES: Thank you, Doctor.
2 You've been very patient.

3 A. You're welcome.

4 THE COURT: Thank you, Mr. Hughes.

5 Ms. Do, redirect?

6 MS. DO: Yes, Your Honor. Thank you.

7 REDIRECT EXAMINATION

8 BY MS. DO:

9 Q. Good afternoon, Dr. Paul.

10 A. Good afternoon.

11 Q. Let me start with the area that
12 Mr. Hughes ended your cross-examination on, the
13 subject of hypercapnia. You indicated to the jury
14 that hypercapnia is really suggesting suffocation?

15 A. Yes.

16 Q. Could you explain that to the jury. What
17 do you mean when you say hypercapnia is really a
18 matter of people suffocating?

19 A. And what I mean by that is that the body
20 is constantly producing carbon dioxide and -- from
21 oxygen. And when you're placed in an environment
22 that has a limited amount of oxygen, that as you're
23 breathing in oxygen and utilizing all the oxygen
24 it's being converted into carbon dioxide and water.
25 And as that oxygen is utilized, carbon dioxide

1 becomes the prominent gas that's present once all
2 the oxygen is gone. So as you continue to breathe,
3 your carbon dioxide levels keep going up and up.

4 It's similar in people who have lung
5 disease who can't bring in enough oxygen through
6 their lungs. Their carbon dioxide levels can also
7 elevate in much the same way. So hypercapnia
8 really is synonymous with suffocation or oxygen
9 exclusion.

10 Q. And you had indicated that -- or you used
11 the phrase "closed container" when you were
12 explaining to the jury under cross-examination what
13 you meant when it's hypercapnia suggesting
14 suffocation. Could you tell the jury what you mean
15 when you say "closed container."

16 A. A closed container would be a container
17 where no air can exit or enter the container.

18 Q. And in your training and experience in
19 dealing with hypercapnia or suffocation, can you
20 tell the jury what kind of circumstances generally
21 are there when you're talking about a closed
22 container? What kind of structure is my question?

23 A. In homicide or suicide cases, one of the
24 mechanisms would be a plastic bag tied around the
25 head. That would be considered a closed container

1 or something similar to that. It's very difficult
2 to construct a room that's a closed container, and
3 you would have to seal every joint of the wood.
4 You would have to seal every crack around the
5 walls. So it would be very unusual for somebody to
6 just suffocate in any type of room.

7 So that would be the most common
8 circumstance would be either a plastic bag placed
9 over the head in a homicide or suicide circumstance
10 or a young child getting caught up in a plastic
11 shopping bag. And that becomes a closed container
12 around the mouth and nose.

13 Q. Have you ever studied in any of your
14 pathology books -- forensic pathology books cases
15 involving children -- I think they're talking in
16 the '50s and '60s -- playing and getting locked up
17 in a refrigerator, for example?

18 A. Yes.

19 Q. Okay. Is that an example of a closed
20 container, hypercapnia-related death?

21 A. Yes. That's one mechanism of death in
22 that instance. Yes.

23 Q. Okay. And you explained to this jury
24 based upon the simple physics that you would expect
25 that gases that are present would diffuse equally

1 throughout the available space?

2 A. Yes.

3 Q. So if people are breathing in a closed
4 container and oxygen is being reduced and carbon
5 dioxide is increased, what would you expect the
6 carbon dioxide to do in terms of how it would
7 spread out, for example, in a sweat lodge
8 structure, assuming it's a closed container?

9 A. It should be equally distributed.

10 Q. Okay. So would it explain to you, for
11 example, hypothetically that folks in the north and
12 folks over here on the -- well, I'm going to use
13 the clock example -- the 12:00, the 3:00, and the
14 9:00 o'clock, but no one else would be suffocating
15 in that same space containing the same amount of
16 carbon dioxide?

17 A. I would not expect that pattern. No.

18 Q. Now, you were asked to review this case,
19 the state's evidence, as it relates to cause of
20 death. And so in that regard, did you review the
21 autopsy reports of Dr. Lyon and Dr. Mosley?

22 A. Yes.

23 Q. And anywhere in Dr. Lyon or Dr. Mosley's
24 report did they conclude that hypercapnia caused
25 the deaths of Ms. Shore -- I'm sorry, Ms. Brown,

1 Ms. Neuman, or Mr. Shore?

2 A. No.

3 Q. The question of whether or not
4 hypercapnia could have contributed to the deaths in
5 this case -- is that new to you?

6 A. Relatively new. Yes.

7 Q. Now, Mr. Hughes asked you some questions
8 of whether or not seeing pinpoint pupils is
9 consistent in hypercapnia. Based upon your
10 16 years as a medical doctor and your 7 years as a
11 medical examiner, have you ever seen miotic pupils
12 in the case of suffocation?

13 A. I have not. And I haven't read of the
14 association.

15 Q. Now, in the medical records, which we've
16 poured over -- and there are many, many thousands
17 of pages for these 18 patients -- for the four that
18 presented with pinpoint pupils, Dr. Paul, did any
19 of the ER doctors seeing those pinpoint pupils look
20 at the possibility of hypercapnia?

21 A. Not that I've seen. No.

22 Q. What did the pinpoint pupils for those
23 four patients indicate to the ER doctors, according
24 to your review of the medical records?

25 A. They were concerned about a toxidrome

1 **being involved.**

2 **Q.** Including a cholinergic toxidrome, which
3 is organophosphates?

4 **A. Yes.**

5 **Q.** Now, I'm going to move on to discuss the
6 cause of death that the state alleges in this case.
7 And that's heat illness.

8 First let me have you explain, if you
9 will, to the jury, what does an ER doc do?

10 **A. So an ER doc in a sense is a generalist**
11 **or a general practitioner who is trained to**
12 **recognize acute or critical presentations really of**
13 **all the different specialties. And they would be**
14 **able to recognize the critical presentations of**
15 **people with lung disease, heart disease, brain**
16 **disease, really anything that could walk in in a**
17 **very sick state through the emergency room doors.**

18 **They're also taught a lot about general**
19 **disease as well, like high blood pressure and**
20 **kidney disease. They're -- really the main goal of**
21 **an ER physician is to diagnose and start treatment**
22 **until a specialist physician can take care of the**
23 **patient.**

24 **Q.** So an ER doc treats a patient who
25 presents with an emergency medical situation?

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1 **A. Yes.**

2 **Q.** What does a medical examiner, forensic
3 pathologist do?

4 **A. The main job of a forensic pathologist is**
5 **to determine cause and manner of death.**

6 **Q.** To look for evidence as to cause of
7 death?

8 **A. Yes.**

9 **Q.** And obviously you've been an ER doc. And
10 you are now a medical examiner of seven years?

11 **A. Yes.**

12 **Q.** Mr. Hughes asked you some questions and
13 showed you an exhibit. I believe it was 148, that
14 had the times, the temperature, and the gust -- or
15 the peak -- high peak winds for Sedona Airport.

16 Do you recall that?

17 **A. Yes.**

18 **Q.** I think that was Exhibit 148. Do you
19 know whether or not the Sedona Airport is about
20 five and a half miles northeast of the Angel Valley
21 property?

22 **A. I don't know the exact location. No.**

23 **Q.** Do you know whether or not the Sedona
24 Airport sits on a mesa that is elevated to a higher
25 degree than this Angel Valley property that sits in

1 the canyon near Oak Creek?

2 **A. That's my understanding. Yes.**

3 **Q.** And would that affect the elevation
4 level, affect the wind or the temperature that you
5 might find in a canyon as opposed to where you
6 would be sitting on top of a mesa?

7 **A. Well, typically an exposed higher**
8 **elevation would have higher wind gusts and also**
9 **cooler temperatures.**

10 **Q.** So based upon the values that Mr. Hughes
11 gave you that came from the Sedona Airport, that
12 sits on this mesa, would you consider that to be
13 reliable in terms of determining what the
14 temperature was and what the wind was at the
15 Angel Valley property that sits in this canyon?

16 **A. I don't think you can exactly translate**
17 **from that data. No.**

18 **Q.** I want to go back to the road map we gave
19 the jury yesterday as to your opinions and
20 conclusions and then ask you some questions that
21 Mr. Hughes raised.

22 You at first indicated to the jury that
23 based upon your review of the medical evidence, you
24 do believe that many, if not all, of the patients
25 showed signs and symptoms of heat exhaustion; is

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1 that correct?

2 Thank you.

3 **A. That's correct.**

4 **Q.** All right. Now if -- and then you told
5 the jury that it's unreliable to look at the
6 temperatures of the patients, starting with
7 Mr. Caci on down to Ms. Veguilla, because of the
8 five-hour passage of time?

9 **A. That's correct. Yes.**

10 **Q.** Now, had those patients come out of the
11 sweat lodge with 105-degree body temperature and
12 severe dehydration, would you have expected them to
13 have been in a group No. 2 where they're
14 transported from the scene between 9:30 and 10:30?

15 **A. No. They would most likely have been**
16 **critically ill.**

17 **Q.** Okay. And you indicated to the jury that
18 one of the reasons why you believe the state's
19 cause of death in this case is not heat stroke is
20 because of the clinical evidence that you saw in
21 the medical records; correct?

22 **A. Yes.**

23 **Q.** I want to go through that with you. The
24 position paper that Mr. Hughes used, the National
25 Association of Medical Examiner -- what is the core

1 temperature that they use in that position paper?
 2 **A. I believe it's 105 degrees.**
 3 **Q.** Same as you?
 4 **A. Yes.**
 5 **Q.** Now, what I want to ask you, if you can
 6 help me explain to the jury, is, will the physical
 7 changes that occur in a body that leads to critical
 8 illness and ultimately death from heat stroke occur
 9 without the body reaching that threshold
 10 temperature?

11 **A. No.**

12 **Q.** Okay. So in some instances you may have
 13 a case where circumstances prevent EMS or the
 14 doctors from recording a temperature; correct?

15 **A. Correct.**

16 **Q.** And in some instances you may have
 17 aggressive cooling or a passage of time that would
 18 lower the core temperature?

19 **A. Yes.**

20 **Q.** But I want the jury to understand, will
 21 heat stroke occur without the body reaching
 22 105 degrees Fahrenheit?

23 **A. No.**

24 **Q.** Now, if you do have some recorded
 25 temperatures in the medical records, which we see

1 in this chart that's Exhibit 1083, can you use
 2 those temperatures as a baseline?

3 **A. Baseline meaning?**

4 **Q.** A baseline to evaluate what the core
 5 temperature is in the case.

6 **A. And I think it's certainly helpful to get**
 7 **an understanding of what the temperature may have**
 8 **been prior. And certainly if I saw a significantly**
 9 **elevated temperature -- 102, 102.5 -- I think that**
 10 **would be a huge red flag and significant.**

11 **Q.** Okay. So let's take a look at Liz
 12 Neuman. You've already testified that her axillary
 13 temperature of the armpit was 97.5 degrees
 14 Fahrenheit at 6:25 p.m. Do you recall that?

15 **A. Yes.**

16 **Q.** And Dr. Cutshall and you both testified
 17 that the axillary temperature is a few degrees off;
 18 is that right?

19 **A. Yes.**

20 **Q.** So using that -- and you had mentioned
 21 something yesterday, that you base this on personal
 22 experience.

23 **A. Yes.**

24 **Q.** What do you mean by that?

25 **A. In the ER we often get both temperatures**

1 **as a patient is staged by the nursing staff. When**
 2 **they come into the emergency department, they often**
 3 **will get a tympanic or axillary temperature. Once**
 4 **the patient is brought into the examination room**
 5 **where there is privacy, they will subsequently get**
 6 **a rectal temperature taken. So in many instances,**
 7 **I've had the opportunity to compare an axillary**
 8 **with a rectal or a tympanic with a rectal**
 9 **temperature.**

10 **Q.** And based upon those personal experiences
 11 of yours, do you know that the axillary temperature
 12 is a few degrees off from the rectal temperature
 13 that's later taken?

14 **A. On average, it's about a degree or two**
 15 **degrees off.**

16 **Q.** So if Ms. Neuman was 97.5 at 6:25 p.m. by
 17 an axillary temperature, is it your testimony that
 18 her maximum core temperature at 6:25 would be
 19 approximately 99.5 degrees Fahrenheit?

20 **A. Yes.**

21 **Q.** Mr. Hughes asked you some questions about
 22 cooling. And let me ask you first. As a medical
 23 examiner, you've testified in homicide cases
 24 approximately 50 times for the prosecution?

25 **A. Yes.**

1 **Q.** And I'm sure you're familiar with the
 2 process where you're posed hypothetical questions?

3 **A. Yes.**

4 **Q.** Is a hypothetical dependent on the
 5 existence of the facts that are provided to you?

6 **A. Yes.**

7 **Q.** Okay. So the answer to the hypothetical
 8 is as good as the facts that are given to you?

9 **A. Yes.**

10 **Q.** Do you know whether or not there is any
 11 evidence in this case that Ms. Neuman was, in fact,
 12 hosed down, as Mr. Hughes has suggested?

13 **A. No, I don't.**

14 **Q.** Do you know if there is any evidence in
 15 this case that someone dumped a five-gallon bucket
 16 of water on Ms. Neuman, as Mr. Hughes suggested?

17 **A. No, I don't.**

18 **Q.** If those facts do not exist and this jury
 19 has never heard that, then the question posed in
 20 the hypothetical is not relevant?

21 **A. That's correct.**

22 **Q.** If all the evidence in this case the jury
 23 has heard has indicated, hypothetically, from a
 24 witness named Jennifer Haley that just two cups --
 25 I'm holding a 10-ounce cup -- two cups of water was

1 splashed on her chest, would you consider that
2 enough of a cooling measure to bring her down to
3 the core temperatures that do you have recorded
4 here if she was 105 when she was taken out of the
5 sweat lodge?

6 **A. Unlikely. No.**

7 **Q.** Mr. Hughes asked you some questions about
8 the appearance of her skin. I'm going to direct
9 your attention to Exhibit 369, which is in
10 evidence. And we'll go to page 2 of the Guardian
11 Air medical records. And I'll just bring it up so
12 you don't have to search through yours.

13 Do you see here that the EMS noted her
14 skin to be clammy and cold?

15 **A. Yes.**

16 **Q.** Did you note here or anywhere in
17 Ms. Neuman's EMS records that she was noted to be
18 drenched?

19 **A. No.**

20 **Q.** Or soaked?

21 **A. No.**

22 **Q.** With regards to Mr. Shore and Ms. Brown,
23 the jury has heard a lot of evidence that no
24 temperature was taken?

25 **A. Yes.**

1 **Q.** Okay. Now, hypothetically, if they've
2 heard evidence in this case that no one hosed these
3 folks down, they weren't wetted down, no aggressive
4 cooling measures were taken, the moment that
5 they're brought out of the sweat lodge, bystander
6 CPR is initiated, including by a doctor named
7 Jeanne Armstrong, if Mr. Shore or Ms. Brown came
8 out of that sweat lodge at 105 degrees Fahrenheit,
9 what would their skin have felt to somebody
10 touching them?

11 **A. Hot.**

12 **Q.** And you would expect that to be noted by
13 the witnesses?

14 **A. If they touched the skin, yes.**

15 **Q.** The second reason why you believe that
16 there is no clinical evidence to support heat
17 stroke is that there is no evidence of severe
18 dehydration?

19 **A. Yes.**

20 **Q.** Mr. Hughes asked you whether or not
21 dehydration is mentioned in that National
22 Association of Medical Examiner paper?

23 **A. Yes.**

24 **Q.** Does that paper suggest to medical
25 examiners, such as yourself, that when you're

1 investigating heat as a cause of death, you should
2 ignore evidence of or the lack of evidence of
3 dehydration?

4 **A. No.**

5 **Q.** Can you die of heat stroke without
6 dehydration?

7 **A. Nonexertional heat stroke?**

8 **Q.** Yes.

9 **A. You can. And we know -- at least I've
10 testified previously that the older and the younger
11 individuals in society are generally more
12 susceptible to heat stroke -- nonexertional heat
13 stroke, particularly if they have underlying
14 medical conditions. So with the elderly who have
15 underlying medical conditions, simply passing into
16 heat exhaustion, stressing the body in that manner,
17 may precipitate a heart attack or other natural
18 events.**

19 **Q.** Okay. So in the case of nonexertional
20 heat stroke, when there is no evidence of
21 dehydration to explain the deaths, it's in the
22 cases of the elderly or those with an underlying
23 condition?

24 **A. Generally. Yes.**

25 **Q.** Have you ever seen either in the

1 literature or your experience a case in which a
2 young or a healthy adult with no underlying
3 condition dies of heat stroke without any evidence
4 of dehydration?

5 **A. Of nonexertional heat stroke, no.**

6 **Q.** Now, I'm going to direct your attention
7 to Exhibit 371, Bates stamp 4031. And this is the
8 lab request that was sent out for Ms. Brown
9 pursuant to Dr. Lyon's request. And in this lab
10 request, Dr. Lyon directed his technician to send
11 out the vitreous fluid for testing. And it was
12 written here in the state's exhibit, vitreous is
13 very important in this case?

14 **A. Yes.**

15 **Q.** From the standpoint of a medical
16 examiner, why are they looking for vitreous, and
17 why is it very important in the case?

18 **A. If they're considering heat stroke, they
19 would be looking for dehydration. And as I've
20 described earlier, in nonexertional heat stroke,
21 that could -- that could be a critical component.**

22 **Q.** So this is an example of the medical
23 examiner Dr. Lyon autopsying the death of
24 Ms. Shore -- I'm sorry -- Ms. Brown, looking for
25 evidence of dehydration?

1 **A. That's what it appears to be. Yes.**
 2 **Q.** And based upon your review of the record,
 3 he found none?
 4 **A. Yes.**
 5 **Q.** Directing your attention to the same
 6 request made for Mr. Shore, Exhibit 376, Dr. Lyon
 7 also sent out Mr. Shore's vitreous fluid for
 8 testing and, again, wrote, vitreous is very
 9 important in this case?
 10 **A. Yes.**
 11 **Q.** A medical examiner investigating heat
 12 stroke as a cause of death looking for dehydration?
 13 **A. Yes.**
 14 **Q.** Dr. Mosley autopsied Ms. Neuman, the
 15 third decedent, and testified to this jury that he
 16 reviewed her medical records searching for evidence
 17 of dehydration.
 18 Why would he do that?
 19 **A. Once again, it's a critical component of**
 20 **nonexertional heat stroke.**
 21 **Q.** So in all three cases in which the
 22 medical examiners -- the state's medical examiners
 23 were investigating heat stroke as a cause of death,
 24 they all looked for evidence of dehydration?
 25 **A. Yes.**

1 **Q.** And they found none?
 2 **A. That's correct.**
 3 **Q.** Mr. Hughes asked you about a page in
 4 Ms. Neuman's records where it indicated that the
 5 working diagnosis is dehydration. Do you recall
 6 that?
 7 **A. Yes.**
 8 **Q.** Would you tell the jury what a working
 9 diagnosis is.
 10 **A. It's the, basically, presumptive**
 11 **diagnosis that a clinician is making. It's not a**
 12 **definitive diagnosis. It's something that needs to**
 13 **be substantiated.**
 14 **Q.** Definitive. You did look at the lab
 15 results that were produced for Ms. Neuman that came
 16 in about 7:00 p.m., I believe?
 17 **A. Yes.**
 18 **Q.** And pursuant to those lab results, did
 19 you have definitive evidence of whether or not
 20 Ms. Neuman was dehydrated?
 21 **A. She had no evidence of significant**
 22 **dehydration. No.**
 23 **Q.** So Dr. Cutshall, the ICU doctor who
 24 managed Ms. Neuman's care, testified to this jury
 25 that she was not dehydrated per the labs. Are you

1 in agreement with that?
 2 **A. Yes.**
 3 **Q.** If Dr. Mosley testified that in reviewing
 4 the medical records of Ms. Neuman, he also found no
 5 clinical evidence of dehydration, is that
 6 consistent with yours?
 7 **A. Yes.**
 8 **Q.** You told this jury under your
 9 cross-examination that it was imperative, I think
 10 was your word "imperative," to make the distinction
 11 between exertional heat stroke and nonexertional
 12 heat stroke.
 13 Do you recall that?
 14 **A. Yes.**
 15 **Q.** Why is it imperative to make that
 16 distinction?
 17 **A. Because they're considered two different**
 18 **entities. And, as I've described earlier,**
 19 **nonexertional heat stroke affects one segment of**
 20 **society typically. That's the elderly and very**
 21 **young. And exertional heat stroke is an entity**
 22 **that affects young, healthy people generally when**
 23 **they exercise.**
 24 **Not all the same -- not all the same**
 25 **criteria for diagnosis exists between the two**

1 **entities. In fact, dehydration may not be a**
 2 **critical component in exertional heat stroke.**
 3 **Q.** So there are certain risk factors that
 4 would make certain sets of the population more
 5 vulnerable to nonexertional heat stroke?
 6 **A. Yes.**
 7 **Q.** And that, as I think you've testified,
 8 includes the elderly?
 9 **A. Yes.**
 10 **Q.** Children?
 11 **A. Yes.**
 12 **Q.** Folks with underlying conditions?
 13 **A. Yes.**
 14 **Q.** Otherwise known as comorbidity?
 15 **A. Yes.**
 16 **Q.** Healthy. Would it also include someone
 17 who would describe herself as overweight?
 18 **A. It depends on how overweight. But**
 19 **generally, no. Morbid obesity would be a risk**
 20 **factor.**
 21 **Q.** Okay. If somebody described themselves
 22 as obese?
 23 **A. It is a risk factor. Yes.**
 24 **Q.** Now, in reviewing the medical evidence in
 25 this case and some of the other documents, you do

1 know that there were 55 participants in the sweat
2 lodge?

3 **A. Yes.**

4 **Q.** Did you see any pattern from the evidence
5 in this case to suggest that only the old or the
6 older or only the less healthy or those with
7 underlying conditions were most affected by the
8 heat that was present in the sweat lodge?

9 **A. I did not note that. No.**

10 **Q.** In fact, do you believe whether or not
11 there is a pattern?

12 **A. I don't believe so. No.**

13 **Q.** Does that suggest anything to you in
14 terms of whether or not this is a case of
15 nonexertional heat stroke?

16 **A. And I think that at least one of the**
17 **affected individuals -- at least one of the**
18 **critically affected individuals had documented**
19 **significant underlying health problems; namely, an**
20 **enlarged heart. And apart from that I did not see**
21 **any major health problems.**

22 **Q.** And you're referring to Mr. Shore?

23 **A. Yes.**

24 **Q.** And I'll ask you a few questions about
25 that.

1 So Ms. Brown, from your review of her
2 medical records, was young and healthy?

3 **A. Yes.**

4 **Q.** And Ms. Neuman, you also testified, had
5 an enlarged heart. Does that put her in the
6 high-risk or higher-risk category?

7 **A. She had a mildly enlarged heart. And I**
8 **wouldn't put her necessarily in the high-risk**
9 **category. No.**

10 **Q.** Okay. If we had a witness who testified
11 to the jury that she would describe herself as
12 being obese or overweight, that she completed all
13 eight rounds -- and, hypothetically, this is
14 Dr. Jeanne Armstrong -- completed all eight rounds,
15 that she considered to be, quote, unquote, easy or
16 doable, and actually emerged from the sweat lodge
17 ceremony triumphant with her hands and fists
18 clenched in the air, does that suggest to you that
19 there is no pattern consistent with nonexertional
20 heat stroke in terms of the risk factors?

21 **A. I think that's supportive evidence. Yes.**

22 **Q.** Now, let's talk about Mr. Shore. He had
23 this enlarged heart. You would put him in the
24 category of the higher risk for nonexertional?

25 **A. Yes.**

1 **Q.** But there were other medical evidence
2 that you found to make his case inconsistent with
3 nonexertional heat stroke?

4 **A. Yes.**

5 **Q.** And we'll talk about that. But that
6 includes the early foaming?

7 **A. Yes.**

8 **Q.** Moving down on this, the clinical
9 evidence that's inconsistent with heat stroke but
10 consistent with organophosphate toxicity,
11 Mr. Hughes asked you some questions about
12 respiratory failure and pulmonary edema. I'm going
13 to follow up with just a few of my own.

14 You testified consistently that it's a
15 late-stage finding?

16 **A. Yes.**

17 **Q.** If Dr. Cutshall testified that he also
18 believes respiratory failure is a late-stage
19 finding, is that consistent about yours?

20 **A. In nonexertional heat stroke, yes.**

21 **Q.** If Dr. Mosley testified that respiratory
22 failure is also a late-stage finding in heat
23 stroke -- nonexertional heat stroke, is that
24 consistent with yours?

25 **A. Yes.**

1 **Q.** Now -- and I understand you've reviewed
2 Dr. Dickson's testimony. Do you recall his
3 testimony regarding pulmonary edema and foaming?

4 **A. Yes.**

5 **Q.** Dr. Dickson, I believe, testified that --
6 and let me make sure -- frothy sputum or foaming is
7 inconsistent with organophosphates. Do you
8 remember that?

9 **A. Yes.**

10 **Q.** In fact, he testified frothy sputum
11 generally is inconsistent with organophosphates.
12 You see the pink, frothy sputum is classic
13 pulmonary edema, whereas organophosphates, these
14 people, they're just drooling, drooling, drooling.

15 Do you remember that?

16 **A. Yes.**

17 **Q.** It's your testimony that frothy sputum or
18 foaming is consistent with organophosphates.

19 **A. Is consistent. Yes.**

20 **Q.** If Dr. Mosley testified that foaming is
21 also consistent with organophosphates and
22 inconsistent with heat stroke, is he in agreement
23 with you?

24 **A. Yes.**

25 **Q.** If Dr. Cutshall testified that foaming is

1 also consistent with organophosphates, would you
2 agree with that?

3 **A. Yes.**

4 **Q.** And then it would appear that he
5 disagrees with Dr. Dickson?

6 **A. Yes.**

7 **Q.** If Dr. Lyon also testified that foaming
8 is consistent with organophosphates, do you agree
9 with him?

10 **A. Yes.**

11 **Q.** Now, you've explained to the jury that
12 when you see foaming in a case of heat stroke, it's
13 caused by two entities; correct?

14 **A. Correct.**

15 **Q.** And that one would be aggressive
16 resuscitation -- or rehydration?

17 **A. Yes.**

18 **Q.** And the other one is ARDS?

19 **A. Yes.**

20 **Q.** Did you see any evidence in the medical
21 records to suggest that anyone had ARDS?

22 **A. No.**

23 **Q.** If the witnesses who testified to this
24 jury observed the foaming that occurred with the
25 three who died and the three who were critically

1 ill before EMS arrived, then can you connect that
2 to any efforts to rehydrate?

3 **A. No.**

4 **Q.** You indicated that in Mr. Brown -- I'm
5 sorry -- Ms. Brown and Mr. Shore's autopsy, there
6 was evidence of pulmonary edema?

7 **A. Yes.**

8 **Q.** I'm going to show you Exhibit 370, Bates
9 stamp 1232. There is a section here under lungs
10 for Ms. Brown. Could you tell the jury where it is
11 that you noted in the autopsy evidence of pulmonary
12 edema.

13 **A. The first spot that's consistent are the**
14 **lung weights. The lung weights are mildly elevated**
15 **in this case at 350 and 400 grams. The third**
16 **sentence describes the pulmonary edema. The cut**
17 **surfaces are purple and congested and exuded a**
18 **moderate amount of reddish foam.**

19 **Q.** So taking this autopsy finding along with
20 the witness observations, including the observation
21 of a Dr. Jeanne Armstrong, that foaming was seen by
22 Ms. Brown at the scene, is that consistent with
23 organophosphate toxicity?

24 **A. Yes.**

25 **Q.** Is it inconsistent with heat stroke?

1 **A. Yes.**

2 **Q.** Taking a look now at Mr. Shore's autopsy
3 report, Bates stamp 1224, would you tell the jury
4 where it is noted that he had pulmonary edema.

5 **A. So, once again, the lung weights are**
6 **elevated and more so in this case. The left lung**
7 **is 500 grams, and the right lung is 600 grams. And**
8 **then the third sentence down, the cut surfaces are**
9 **purple, congested, and exuded a moderate amount of**
10 **pinkish-red foam.**

11 **Q.** So, again, if witnesses observed
12 Mr. Shore to have been foaming or emanating this
13 frothy sputum before EMS arrived, meaning no
14 rehydration has taken place, and pulmonary edema is
15 observed at autopsy, what is that consistent with?

16 **A. Organophosphate toxicity.**

17 **Q.** What is it inconsistent with?

18 **A. In this case, nonexertional heat stroke.**

19 **Q.** You have told the jury that the other
20 factor that makes this case inconsistent with heat
21 stroke is the reversible brain injury with no
22 permanent neurological sequela?

23 **A. Yes.**

24 **Q.** What's sequela?

25 **A. So long-term effects.**

1 **Q.** Now, Mr. Hughes asked you some questions
2 about Stephen Ray regarding an interview conducted
3 by the defense on December 22nd, 2011. Do you
4 recall that?

5 **A. Yes.**

6 **Q.** And in the question Mr. Hughes posed, he
7 asked you if you had considered whether or not
8 Mr. Ray's report of ringing, effect of taste, aches
9 and pains, would change your opinion that there is
10 no brain injury with permanent neurological sequela
11 in this case.

12 Do you recall that?

13 **A. Yes.**

14 **Q.** Now, are you aware of whether or not
15 Mr. Ray has filed a lawsuit against Mr. Ray --
16 James Ray in this case?

17 **A. It's my understanding. Yes.**

18 **Q.** And obviously, as a doctor rendering
19 opinions and conclusions regarding medical causes
20 of death, are you going to consider the reliability
21 of the information or the source of information?

22 **A. Yeah. It's -- all along it's been**
23 **unclear as to the validity of that information.**

24 **Q.** You did, however, rely on the clinical
25 observations made by medical doctors as documented

1 in his medical records?

2 **A. Yes.**

3 **Q.** And as you told this jury yesterday, in
4 Mr. Stephen Ray's medical records was it noted,
5 quote, unquote, that the symptoms cleared entirely
6 on October 11, 2010?

7 **A. Yes.**

8 **Q.** Was it noted that the patient, Mr. Ray,
9 stated and seems to be doing great with no clear
10 residual neurological sequela?

11 **A. Yes.**

12 **Q.** And you also saw evidence of a CT or an
13 MRI was done of his head --

14 **A. Yes.**

15 **Q.** -- that showed no brain injury?

16 **A. Correct.**

17 **Q.** Let me show you Exhibit 213 of his
18 medical records. And I'm going to look at the
19 final diagnosis.

20 Counsel, this is Bates stamp 7089.

21 Looking at 7088, do you see her final
22 diagnosis?

23 **A. I see final diagnosis. Yes.**

24 **Q.** And then that continues to the next page,
25 and there are a number of different conditions

1 noted under final diagnosis. Do you see that?

2 **A. Yes.**

3 **Q.** It indicates respiratory failure
4 resolved?

5 **A. Yes.**

6 **Q.** Acute renal failure resolved?

7 **A. Yes.**

8 **Q.** Anoxic brain injury resolved?

9 **A. Yes.**

10 **Q.** Did you also note in Mr. Ray's medical
11 records mention of whether or not the doctors
12 believed he had heat stroke?

13 **A. I don't recall definitive -- definitive**
14 **comments concerning heat stroke. No.**

15 **Q.** Let me direct your attention to Bates
16 stamp 7095. And at the top here of Mr. Ray's
17 medical records, do you see the date of October 11,
18 2009, for the examination?

19 **A. Yes.**

20 **Q.** And it's a Dr. Neff who made this report?

21 **A. Yes.**

22 **Q.** And down at the bottom do you see where
23 Dr. Neff wrote in his assessment, this patient does
24 not appear to have had heat stroke?

25 **A. Yes.**

1 **Q.** Do you agree with that?

2 **A. Yes.**

3 **Q.** I'm going to show you Bates stamp 7098.
4 And this is now a report by a different doctor,
5 Dr. Kennedy. Do you see that, Doctor?

6 **A. Yes.**

7 **Q.** On the date of October -- can you read
8 that from where you are.

9 **A. 10th, I believe.**

10 **Q.** Okay. So it's Dr. Kennedy on the 10th of
11 October 2009?

12 **A. Yes.**

13 **Q.** And do you know, on this report by
14 Dr. Kennedy, Emmalee Kennedy, that she also noted,
15 the patient does not appear to have had heat
16 stroke?

17 **A. Yes.**

18 **Q.** Do you agree with that?

19 **A. Yes.**

20 **Q.** Mr. Hughes also asked you questions about
21 Sidney Spencer and any long-term effects that she
22 had after the sweat lodge ceremony. Do you
23 remember that?

24 **A. Yes.**

25 **Q.** And he referred to a letter that

1 Ms. Spencer wrote to Ms. Polk?

2 **A. Yes.**

3 **Q.** He also referred to a report by a
4 Dr. O'Connor. Do you remember that?

5 **A. Yes.**

6 **Q.** I did provide you with copies of that?

7 **A. Yes.**

8 **Q.** I'm going to approach you with
9 Exhibit 397. Does that appear to be a copy of
10 Dr. O'Connor's report?

11 **A. Yes.**

12 **Q.** Okay. Now, looking at this, do you see
13 that title where it says, to Mr. James H. Dyer?

14 **A. Yes.**

15 **Q.** Do you know who that is?

16 **A. No.**

17 **Q.** And the re line being Mehravar versus
18 Ray, et al.?

19 **A. I see that. Yes.**

20 **Q.** Do you remember reading anything about a
21 participant named Dennis Mehravar?

22 **A. Yes.**

23 **Q.** Mehravar versus Ray, et al. Does that
24 suggest to you that it's a civil lawsuit?

25 **A. Yes.**

1 Q. I'm handing you Exhibit 398 marked for
2 identification. Is this another report by the same
3 Dr. Frances O'Connor?

4 A. Yes.

5 Q. And that specifically is a report
6 regarding Ms. Spencer?

7 A. Yes.

8 Q. Do you also see that it's addressed to a
9 Mr. James Dyer?

10 A. Yes.

11 Q. Do you know who that is?

12 A. No.

13 Q. Do you know whether or not he's a lawyer
14 retained by a plaintiff in a civil lawsuit?

15 A. No.

16 Q. The re line is Spencer versus Ray, et al.
17 Does that indicate to you that it is a civil
18 lawsuit by Ms. Spencer?

19 A. Yes.

20 Q. Do you know whether or not Ms. Spencer
21 has sued Mr. Ray -- James Ray?

22 A. I do not know.

23 Q. Based upon the headings that we've just
24 reviewed, do those reports appear to be generated
25 in a lawsuit?

1 A. Yes.

2 Q. Would you consider that to be reliable
3 medical evidence?

4 A. I would take it into consideration but
5 not as reliable generally as a medical record. No.

6 Q. Okay. And have you in this case -- first
7 of all, anything that the defense received, we've
8 provided to you, to your knowledge?

9 A. Yes.

10 Q. Have you ever seen medical records by a
11 physician not related to a lawsuit regarding
12 Ms. Spencer any long-term or aftereffects that she
13 may have been feeling?

14 A. No.

15 Q. Have you ever seen a record of a
16 physician not related to a lawsuit regarding what
17 Mr. Spencer -- what Mr. Stephen Ray may have felt
18 in terms of aftereffects?

19 A. No.

20 Q. Let's take a look at the medical records
21 really quickly, then, for Ms. Spencer. That's
22 Exhibit 222. I'm going to direct your attention to
23 Bates stamp 2705. Does this indicate October 8,
24 2009, with a time stamp of 10:45?

25 A. Yes.

1 Q. And at that time, do you note that she
2 was extubated?

3 A. Yes.

4 Q. And when she was extubated, the doctor
5 noted that she was able to provide her name --

6 A. Yes.

7 Q. -- meaning she'd snapped out of her
8 comatose state?

9 A. Yes.

10 Q. And with that hour now of 10:45, does
11 that indicate to you that she snapped out of her
12 comatose stage within three hours of being
13 intubated?

14 A. Yes.

15 Q. Taking a look at another page in her
16 medical records -- this is Bates stamp 2079 -- I'm
17 sorry. We're going to look at Bates stamp 2080.
18 I'm directing your attention to this critical care
19 evaluation by Dr. Brent Cutshall. Under
20 musculoskeletal, what did Dr. Cutshall note?

21 A. No muscle or joint pain or swelling or
22 restriction of motion.

23 Q. And I understand from what Mr. Hughes
24 asked you from that report of the doctor retained
25 in her civil lawsuit that she complained of a

1 dropped left foot --

2 A. Yes.

3 Q. -- and disequilibrium?

4 A. Yes.

5 Q. But Dr. Cutshall noted before she was
6 discharged that there was no muscle or joint pain,
7 swelling, or restriction of motion.

8 A. That's correct. Yes.

9 Q. Also looking at the same page, Dr. Paul,
10 under the observations and neurological, do you
11 note that Dr. Cutshall noted no problems with
12 dizziness, speech, or gait?

13 A. Yes.

14 Q. And gait has to do with what?

15 A. How she walks.

16 Q. Okay. And from that report generated in
17 her lawsuit, the doctor retained in that lawsuit
18 stated that she had a dropped left foot --

19 A. Yes.

20 Q. -- and some disequilibrium?

21 A. Yes.

22 Q. Is that consistent with what Dr. Cutshall
23 noted in the medical records prior to the lawsuit
24 being filed?

25 A. No.

1 Q. The last thing I'd like to point you to
2 in Ms. Spencer's records is on the same page, again
3 having to do with neurological observations. What
4 about did Dr. Cutshall note of Ms. Spencer?

5 A. **The patient is alert and oriented times**
6 **three following extubation. Cranial nerves 2**
7 **through 12 are grossly intact bilaterally and moves**
8 **all extremities appropriately with normal strength.**

9 MR. HUGHES: Your Honor, pursuant to Rule 106,
10 I'd ask Ms. Do to show the previous page on 2079
11 that shows the time that this information was
12 performed by Dr. Cutshall.

13 MS. DO: That's fine, Your Honor.

14 THE COURT: If you would do that. Thank you.

15 Q. BY MS. DO: We're looking at the page
16 Mr. Hughes requested. And the time stamp on that
17 is October 9, 2009, at three minutes past midnight.

18 A. Yes.

19 MR. HUGHES: And actually, although it's the
20 same time, I was referring to the performed by
21 date.

22 MS. DO: Do you want to show me what line?

23 MR. HUGHES: You need to go down another line.

24 MS. DO: Oh. Okay.

25 Q. Performed by Dr. Cutshall on October 9,

1 2009, at three minutes past midnight; correct?

2 A. Yes.

3 Q. When you told the jury that you would
4 expect in a case of nonexertional heat stroke if
5 there is brain injury that there would be permanent
6 neurological sequela, what do you mean by that?

7 A. **So that they've had -- they would have**
8 **permanent neurological deficits or identifiable**
9 **deficits by history or exam.**

10 Q. What do you mean by "neurological
11 deficits"?

12 A. **They would have trouble doing things, and**
13 **the most common deficit would be movement**
14 **disorders. Because, as I've testified before, the**
15 **cerebellum would be a common site of injury. So**
16 **they may have difficulty walking, picking up**
17 **objects, those types of -- of deficits.**

18 Q. Okay. And so if Mr. Stephen Ray was able
19 to walk into court, take this witness stand, and
20 testify, you would not -- would you find that to be
21 consistent with permanent neurological sequela?

22 A. **I believe if he had a normal -- a normal**
23 **gait and did not appear to be unbalanced, that it**
24 **would appear that he had normal cerebellum.**

25 Q. Now, I want to make sure that we

1 understand. I understand -- and I'm going to
2 try and break it down into more laypeople's terms
3 here. The reason you believe that the brain
4 injuries observed in Ms. Wong, Ms. Spencer, and
5 Mr. Ray to be inconsistent with nonexertional heat
6 stroke is because it was all reversible --

7 A. Yes.

8 Q. -- meaning that they snapped out of their
9 comatose stages within three hours to a day or so?

10 A. **That's one of the reasons. Yes.**

11 Q. And, as you explained to the jury, a
12 brain injury in nonexertional heat stroke is going
13 to be caused by two things. One is severe
14 dehydration?

15 A. Yes.

16 MR. HUGHES: Your Honor, I'd object to the
17 leading nature of these questions.

18 THE COURT: Overruled.

19 Q. BY MS. DO: Yes?

20 A. Yes.

21 Q. And that's the kind that is reversible?

22 A. Yes.

23 Q. And what you saw in these three cases of
24 the critically ill is that their brain injury was
25 reversible?

1 A. **That's correct. Yes.**

2 Q. Did you see evidence of severe
3 dehydration?

4 A. No.

5 Q. So this is not explicable?

6 A. **That's correct.**

7 Q. The other is direct injury by the heat.

8 A. Yes.

9 Q. Is this reversible or irreversible?

10 A. **Generally irreversible.**

11 Q. And is that the case with these three
12 critically ill?

13 A. **No. Their neurological deficits or**
14 **comatose states reversed within a matter of hours.**

15 Q. So this would not apply?

16 A. **That's correct.**

17 Q. And because these are the only two
18 explanations for brain injury in nonexertional heat
19 stroke, is that why you're telling this jury the
20 comatose stages that were transient is inconsistent
21 with heat stroke?

22 A. Yes.

23 Q. Is it something that you would see in
24 organophosphate toxicity?

25 A. Yes.

1 Q. The other factor that you had explained
2 to the jury as being inconsistent with
3 nonexertional heat stroke but consistent with
4 organophosphate toxicity is pinpoint pupils?

5 A. Yes.

6 Q. And as you explained to the jury
7 yesterday and today again, you can see pinpoint
8 pupils in a case of heat stroke?

9 A. Yes.

10 Q. Is it more common in the case of
11 organophosphates or heat stroke?

12 A. **Organophosphates.**

13 Q. If Dr. Mosley testified to this jury that
14 he believed pinpoint pupils to be inconsistent with
15 heat stroke, would you agree or disagree with that?

16 A. **I would agree. Yes.**

17 Q. If Dr. Cutshall testified that pinpoint
18 pupils presented by these patients to his hospital
19 were red flags for toxicity, like organophosphates,
20 would you agree or disagree?

21 A. **I agree.**

22 Q. In fact, those four patients with
23 pinpoint pupils -- did you see anything in the
24 medical records to suggest that the ER doctors, the
25 ICU doctors, took pinpoint pupils to be a red flag

1 for heat stroke?

2 A. **No.**

3 Q. You told the jury that in the case of
4 heat stroke, you would typically see normal or
5 dilated pupils?

6 A. **Yes.**

7 Q. If Dr. Cutshall, the ICU doctor, also
8 testified that you would typically see normal or
9 dilated pupils in heat stroke, would you agree with
10 that?

11 A. **Yes.**

12 Q. You -- I'm not sure if it was yesterday
13 or today -- it was yesterday. You told Mr. Hughes
14 that you were considering other possibilities,
15 including carbamates and nicotine-based pesticides?

16 A. **Yes.**

17 Q. Would you tell the jury what carbamates
18 are.

19 A. **So carbamates are another pesticide. And**
20 **they have the signs and symptoms of**
21 **organophosphates.**

22 Q. And what did you mean when you said
23 "nicotine-based pesticides"?

24 A. **So nicotine has been used as an**
25 **insecticide for years. And not many people know**

1 **it, but nicotine can be highly toxic and presents**
2 **with the same signs and symptoms as**
3 **organophosphates.**

4 Q. Do you know what has to occur with the
5 nicotine for it to be a toxic, or what's done to it
6 to be used in pesticides?

7 A. **Not specifically. No.**

8 Q. Okay. So does it have to be in a
9 particular concentration of any kind?

10 A. **I mean, I don't know the exact**
11 **concentration.**

12 Q. And why was it that you were considering
13 nicotine-based pesticides?

14 A. **And -- well, one reason is that it has**
15 **similar signs and symptoms. Principally is that it**
16 **has a strong association with miotic pupils.**

17 Q. Mr. -- and I have two more areas to cover
18 with you, and then we'll be done, Dr. Paul.

19 Mr. Hughes asked you, what if there is no
20 evidence of pesticides used at Angel Valley? Do
21 you recall that?

22 A. **Yes.**

23 Q. And do you know whether or not in this
24 case the Yavapai County Sheriff's Office looked for
25 evidence of pesticides at the time of the accident?

1 A. **I do not know.**

2 Q. Do you know whether or not the Yavapai
3 County Sheriff's Office collected but failed to
4 test the soil collected at the site for
5 organophosphates?

6 A. **I know soil was collected, but I don't**
7 **know if it was tested.**

8 Q. Do you know whether or not testing that
9 was done uncovered a chemical in one of the tarp
10 materials that a criminalist testified to could be
11 a marker for pesticides?

12 A. **Yes. I know that.**

13 Q. Now, if the detectives in this case
14 didn't look for evidence of any other cause other
15 than heat, would it surprise you that there is an
16 absence of physical evidence regarding pesticide
17 use at Angel Valley?

18 A. **Not necessarily. No.**

19 Q. In the 50 cases that you've testified --
20 50 homicide cases that you've testified for the
21 prosecution in New Mexico, you're familiar with
22 criminal prosecutions, then?

23 A. **Yes.**

24 Q. Who controls the crime scene?

25 A. **So -- well, actually, in New Mexico the**

1 **crime scene is controlled by the investigating**
 2 **police department. The body is controlled by the**
 3 **medical examiner's office.**

4 Q. Not the accused?

5 A. **That's correct.**

6 Q. Do any of these questions that I just
 7 asked you regarding whether or not the detectives
 8 looked for evidence of pesticides, whether the
 9 detectives collected evidence that might contain
 10 organophosphates -- do any of those questions
 11 change the medical evidence that you saw in this
 12 case?

13 A. **No.**

14 Q. Do any of those questions change the
 15 medical evidence that suggested to you a pattern of
 16 signs and symptoms consistent with organophosphate
 17 toxicity?

18 A. **No.**

19 Q. Are there tests that could be done to
 20 detect organophosphates, for example, in a blood
 21 sample taken at autopsy?

22 A. **No. Not reliably.**

23 Q. Not reliable. Why don't you explain
 24 that.

25 A. **Well, you could perform the test. And --**

1 **but as I've testified to yesterday,**
 2 **organophosphates are generally rapidly metabolized**
 3 **in blood, even though they're stored at cold**
 4 **temperatures. And so you have to perform the test**
 5 **really within hours or a day or two of collecting**
 6 **that sample. Given the fact that it was tested**
 7 **approximately, I think, 18 months after collection**
 8 **would make that test extremely unreliable.**

9 Q. So if I understand you correctly, there
 10 is a test, but if you wait too long, it's
 11 unreliable?

12 A. **Yes.**

13 Q. But if you test -- for example, if the
 14 death occurred on October 8 and you tested on
 15 October 9, you might get reliable results?

16 A. **Yes.**

17 Q. How reliable?

18 A. **And it depends on the organophosphate**
 19 **tested. Some are more stable than others. Some**
 20 **actually metabolize within minutes to hours, and**
 21 **some will last for several days.**

22 Q. If you were a medical examiner presented
 23 with a case in which you suspected the death to be
 24 organophosphate toxicity, would you send the sample
 25 out for testing?

1 A. **Yes.**

2 Q. And when would you do that?

3 A. **After I collected the sample.**

4 Q. I was looking for this exhibit yesterday.

5 It's 1001, which is in evidence. I provided you

6 with a copy of this letter?

7 A. **Yes.**

8 Q. And at the top do you see Yavapai County
 9 Attorney?

10 A. **Yes.**

11 Q. The date of March 2nd, 2011?

12 A. **Yes.**

13 Q. Do you know whether or not that was one
 14 day after opening statements were provided to the
 15 jury in this case?

16 A. **I did not know that exactly. No.**

17 Q. And it is a letter from Bill Hughes, the
 18 prosecutor in this case?

19 A. **Yes.**

20 Q. And did it indicate to you by this letter
 21 written by Mr. Hughes where he says he talked to an
 22 employee at the lab the state employed, either
 23 Mr. -- or Dr. Bloom regarding the reliability of
 24 the test they conducted?

25 A. **Yes.**

1 Q. And would you agree with Dr. Bloom -- or
 2 Mr. Bloom's statement that the testing the state
 3 requested some 17 months after the accident would
 4 not be reliable?

5 A. **Yes.**

6 Q. The last area I'd like to ask you a few
 7 questions on relates to that paper that Mr. Hughes
 8 questioned you about -- the National Association of
 9 Medical Examiner. Do you have that in front of
 10 you?

11 A. **Yes.**

12 Q. The jury has heard that Dr. Lyon is a
 13 member of the National Association of Medical
 14 Examiner?

15 A. **Yes.**

16 Q. And Dr. Mosley is also a member?

17 A. **Yes.**

18 Q. Are you a member?

19 A. **Yes.**

20 Q. Is this an organization that, first of
 21 all, as it's name implies is national?

22 A. **Yes.**

23 Q. Meaning all through the United States?

24 A. **Yes.**

25 MR. HUGHES: Your Honor, I object to the

1 leading question.

2 THE COURT: Sustained.

3 Q. BY MS. DO: Does it include all of the
4 states?

5 A. Yes.

6 Q. And members of this national
7 organization, do they include medical examiners,
8 like yourself?

9 A. Yes.

10 Q. And medical examiners do what in criminal
11 cases across this country?

12 A. **Their principal role is to determine
13 cause and manner of death.**

14 Q. In this paper, if you would look at it
15 with me, page 8 of 10, now, again, this is a
16 national organization that governs medical
17 examiners such as yourself, Dr. Lyon, and
18 Dr. Mosley?

19 A. Yes.

20 Q. On this page, does the National
21 Association of Medical Examiners say it is
22 appropriate to certify a death as heat related if
23 the investigation provides compelling evidence of
24 continuous exposure to a hot environment and fails
25 to identify an independent cause of death?

1 A. Yes.

2 Q. Do you agree with that?

3 A. Yes.

4 Q. It can also identify an independent cause
5 of death. So under the National Association of
6 Medical Examiner, can you conclude heat or heat
7 stroke as the cause of death when you are unable to
8 exclude another cause of death?

9 A. No.

10 Q. Dr. Paul, within this case Dr. Cutshall,
11 who I know is not a medical examiner, testified he
12 cannot exclude organophosphates based upon the
13 clinical presentation of his patients. Using
14 Dr. Cutshall's medical records, his observations,
15 his treatment, can you certify this case as a heat
16 stroke?

17 A. **No. Not without reasonably excluding
18 other possibilities.**

19 Q. If Dr. Lyon, who conducted the autopsy in
20 the death investigation of Mr. Shore and Ms. Brown,
21 also testified to this jury he cannot exclude
22 organophosphates, could you as a medical examiner
23 certify this case as heat stroke?

24 A. **Not without excluding other reasonable
25 possibilities. No.**

1 Q. And, finally, if Dr. Mosley also
2 testified to this jury he cannot exclude
3 organophosphates as contributing to the cause of
4 death for Ms. Neuman, can you as a medical examiner
5 under the guideline that governs medical examiners
6 in this country certify the case as a heat stroke?

7 A. **Not without reasonably excluding other
8 possibilities.**

9 Q. Can you exclude organophosphates based
10 upon the signs and symptoms in this case?

11 A. No.

12 Q. So if we have three medical examiners and
13 the ICU doctor who treated the four critically ill
14 all testifying to this jury they cannot exclude
15 organophosphates, could you under those
16 circumstances certify this case to be a heat
17 stroke?

18 A. No.

19 Q. Thank you very much, Doctor.

20 I have no further questions, Your Honor.

21 THE COURT: Thank you, Ms. Do.

22 Ms. Rybar, if I can see the jury
23 questions, please.

24 Can I see the attorneys, please, to look
25 at the jury questions?

1 (Sidebar conference.)

2 MS. DO: No objection.

3 MR. HUGHES: I have no objection.

4 THE COURT: Any objection to one, two, or
5 three?

6 MS. DO: No, Your Honor.

7 MR. HUGHES: No objection, Your Honor. Thank
8 you.

9 (End of sidebar conference.)

10 THE COURT: Dr. Paul, I will ask the
11 questions, and the attorneys may want to follow up.

12 First question: Have you had any cases
13 of organic phosphate poisoning or death?

14 THE WITNESS: I have not treated somebody who
15 has died of organophosphate poisoning. No.

16 THE COURT: Follow up, Ms. Do?

17 MS. DO: Yes, Your Honor. Thank you.

18 FURTHER REDIRECT EXAMINATION

19 BY MS. DO:

20 Q. Dr. Paul, the jury has heard a lot of
21 testimony in the last two days regarding your
22 expert medical opinions on organophosphate
23 toxicity. What do you base that on?

24 A. **My training both in the emergency room
25 and in forensic pathology. I received extensive**

1 training in both of those venues, particularly
2 after 911 when people were very concerned of mass
3 disasters involving aerosolized -- toxins that can
4 be aerosolized. And although I haven't treated it,
5 I've certainly read and have been trained in that
6 area.

7 Q. Thank you, Doctor.

8 Nothing further, Your Honor.

9 THE COURT: Okay.

10 Mr. Hughes.

11 MR. HUGHES: Thank you.

12 RECROSS-EXAMINATION

13 BY MR. HUGHES:

14 Q. Doctor, my understanding, then, that the
15 reading and training that you've had has been
16 recently since 911 with the use of organophosphates
17 as a weapon?

18 A. Just organophosphates in general and
19 toxidromes in general. Yes.

20 Q. And you indicated that you never treated
21 a patient who had died from organophosphates. Have
22 you ever treated a patient who was exposed to
23 organophosphates and came to the emergency
24 department?

25 A. No. I've testified to that before. I

1 haven't treated a patient in the ED or performed an
2 autopsy on organophosphate exposure.

3 Q. Have you had an opportunity in your
4 practice to meet with another doctor during these
5 meetings that you hold once a week to discuss that
6 doctor's autopsy or determination in the cause of
7 death of someone who has died from
8 organophosphates?

9 A. No. Not in our office. But I have
10 spoken with medical examiners who have performed
11 autopsies on pesticide-related deaths. Yes.

12 Q. And can you give us some details about
13 that.

14 A. Yes. One of our medical examiners is
15 from Kentucky. And he works -- and Kentucky is
16 well-known as a tobacco-producing area and a very
17 agricultural area. It wasn't unusual for farm
18 workers who had a lot of exposure to green leaf and
19 curing tobacco to demonstrate toxic signs and
20 symptoms. And occasionally those farm workers
21 would die from nicotine absorption through the
22 skin. And, as I've testified earlier, they present
23 with very similar signs and symptoms to
24 organophosphates.

25 Q. So that individual medical examiner had

1 cases where people had been in contact with
2 prolonged exposure to tobacco --

3 A. Yes.

4 Q. -- on farms?

5 A. Yes.

6 Q. Thank you.

7 THE COURT: Ms. Do?

8 MS. DO: No, Your Honor. Thank you.

9 THE COURT: And the next question, Dr. Paul.

10 What exposure levels of organophosphate toxicity
11 would you expect to see in a case of human death?

12 THE WITNESS: And I was asked this question
13 before. It really depends on the pesticide and how
14 toxic that particular pesticide is and also the
15 concentration of the pesticide. Determining the
16 lethal dose of a -- of any type of pesticide would
17 be outside my area of expertise.

18 THE COURT: Follow up, Ms. Do?

19 MS. DO: Yes, Your Honor. Thank you.

20 FURTHER REDIRECT EXAMINATION

21 BY MS. DO:

22 Q. Your testimony, your opinions, and
23 conclusions in this case, are based upon your
24 review of the medical records, the medical evidence
25 of what these particular participants showed up in

1 terms of their signs and symptoms?

2 A. Yes.

3 Q. So you had to work backwards?

4 A. Yes.

5 Q. You would not have been able to control
6 what evidence was seized from the scene?

7 A. That's correct.

8 Q. Now, you said it was outside your area of
9 expertise. Do you know whether or not the state
10 could have consulted with a particular type of
11 doctor if they wanted an answer to that question?

12 A. Yes.

13 Q. And what kind of doctor is that?

14 A. Clinical toxicologists would be a good
15 start.

16 Q. Thank you.

17 I have nothing further, Your Honor.

18 THE COURT: Mr. Hughes?

19 MR. HUGHES: Thank you.

20 FURTHER RECROSS-EXAMINATION

21 BY MR. HUGHES:

22 Q. Doctor, did you consult a clinical
23 toxicologist?

24 A. Not officially. No.

25 Q. Did you unofficially?

1 **A. And very early on in the case, I**
 2 **discussed some of the signs and symptoms that the**
 3 **patients were presenting with. Yes.**

4 **Q.** Did that clinical toxicologist suggest
 5 any organophosphates that would be consistent?

6 **A. There was no toxins suggested by him at**
 7 **the time. No.**

8 **Q.** Are you familiar or aware of any common
 9 household organophosphate that is so lethal that if
 10 it's sprayed on the ground and you sit on it, it's
 11 going to kill you?

12 **A. Household items, no. I don't.**

13 **Q.** Are you aware of any industrial
 14 organophosphates that are used on the farm that are
 15 so toxic that if you sit on the ground where it's
 16 been sprayed, it's going to kill you?

17 **A. My only answer to that is that there are**
 18 **many documented dermal exposures to**
 19 **organophosphates that were toxic. And dermal**
 20 **absorption is a common route -- or relatively**
 21 **common route of toxicity with organophosphates.**
 22 **Yes.**

23 **Q.** And are -- those dermal exposure cases,
 24 did they result in death?

25 **A. Some of them did. Yes.**

1 **Q.** And do you know how many?

2 **A. I don't know the exact number. There**
 3 **is -- there are some statistics for the U.S. I**
 4 **don't have the statistics worldwide. But for the**
 5 **U.S., the American Association of Poison Control**
 6 **Centers reported data from 1998 to 2002. At that**
 7 **time, they received 85,000 phone calls concerning**
 8 **organophosphate exposure. And each year there is**
 9 **approximately eight deaths that are reported to**
 10 **poison control centers.**

11 **Q.** Do you know how many of those deaths that
 12 actually result in death, how many of those deaths
 13 involved people who were suicidal?

14 **A. I don't know the exact number. No.**

15 **Q.** Okay. Are you aware of -- in the -- I
 16 believe it was the Goldfrank article, the
 17 discussion of a man trying to commit suicide by
 18 drinking a large quantity of malathion?

19 **A. In some parts of the world it is a common**
 20 **method of suicide, not necessarily in the U.S. or**
 21 **North America. But it's very well documented in**
 22 **India and Japan as a method of suicide. I've not**
 23 **read of any reports that it's become a common**
 24 **method of suicide in the U.S.**

25 **Q.** And the reports you referred to a moment

1 ago about deaths from dermal exposure to
 2 organophosphates -- were those deaths in the
 3 United States or were they in the Third World?

4 **A. I was reading about organophosphate**
 5 **absorption in general and that it can cause deaths.**
 6 **I can't recall whether those were U.S. or**
 7 **international deaths.**

8 **Q.** Thank you, Doctor.

9 THE COURT: Anything else on that point?

10 MS. DO: Yes, Your Honor.

11 FURTHER REDIRECT EXAMINATION

12 BY MS. DO:

13 **Q.** Would the presence of heat and humidity
 14 speed up or affect the rate of absorption if
 15 organophosphates were present in the soil?

16 **A. Yes. It would increase the rate of**
 17 **absorption.**

18 **Q.** You had mentioned -- or Mr. Hughes raised
 19 the Goldfrank article. You have referred to that?

20 **A. Yes.**

21 **Q.** I believe it's been admitted into
 22 evidence, Exhibit 1008. In that article -- first
 23 of all, is that a reliable source?

24 **A. Yes.**

25 **Q.** In that article do you recall the author

1 writing this article called "Insecticides,
 2 Organophosphate Compounds and Carbamates" stating
 3 that, children and adults can develop toxicity
 4 while playing in or inhabiting a residence recently
 5 sprayed or fogged with organophosphorus
 6 insecticides by a pesticide applicator?

7 **A. Yes.**

8 **Q.** And during -- I'm sorry. Direct dermal
 9 contact with certain types of these insecticides
 10 may be rapidly poisonous?

11 **A. Yes.**

12 **Q.** Do you know whether or not -- or if this
 13 is outside of your expertise, please tell me -- the
 14 presence of 2-ethyl-1-hexanol is an inert
 15 ingredient that is used as a solvent to make
 16 pesticides more sprayable?

17 **A. That's outside my area of expertise.**

18 **Q.** You had mentioned to Mr. Hughes some
 19 statistics of the five-year period of 1998 through
 20 2002 the American Association of Poison Control
 21 Centers logging how many calls regarding to OP --

22 **A. Roughly --**

23 **Q.** -- poisoning cases?

24 **A. Roughly about -- I think it was roughly**
 25 **about 80,000.**

1 Q. And, lastly, in the Goldfrank article, do
2 you recall the author on this particular subject
3 saying, these insecticides still rank as the most
4 frequent lethal insecticides in use in the
5 United States and among the most lethal poisoning?

6 A. Yes.

7 Q. Thank you, sir.

8 I have nothing further.

9 THE COURT: Next question: In your expert
10 opinion, if a person passes out in a sweat lodge,
11 should they be removed as soon as possible, or is
12 it okay to wait?

13 THE WITNESS: I think that my best answer to
14 that question is that syncope or passing out is a
15 sign of heat exhaustion. Anytime that somebody
16 exhibits signs of heat exhaustion and/or is passing
17 out, they should probably be removed from that heat
18 environment.

19 As we talked about before, heat-related
20 illness is on a continuum. And once you identify
21 that they're moving along that continuum with a
22 symptom like passing out, you probably should be
23 removed from that hot environment.

24 THE COURT: Ms. Do?

25 MS. DO: Thank you.

1 FURTHER REDIRECT EXAMINATION

2 BY MS. DO:

3 Q. I'm sorry if this is an obvious question,
4 Dr. Paul. They should be removed from the heated
5 environment. And that is if the people around them
6 are aware that the person has passed out?

7 A. Yes.

8 Q. Thank you.

9 I have nothing further, Your Honor.

10 THE COURT: Mr. Hughes.

11 MR. HUGHES: Thank you.

12 FURTHER RECROSS-EXAMINATION

13 BY MR. HUGHES:

14 Q. Doctor, you would agree with me that
15 someone who is passed out would not be able to make
16 the decision once they're passed out to remove
17 themselves?

18 A. That would be difficult to do if you were
19 unconscious. Yes.

20 Q. And you had testified earlier that a
21 particular concern for nonexertional heat stroke
22 are the elderly and the very young?

23 A. Yes.

24 Q. And is one of the reasons that they're of
25 concern is that very young children can't make the

1 decision for themselves to get out of a hot place,
2 like a car?

3 A. Yes.

4 Q. And the same can be true for the very,
5 very old? They may have dementia or other issues
6 that could prevent them from getting out when it's
7 very hot?

8 A. That's correct. Yes.

9 Q. Thank you, Doctor.

10 THE COURT: Anything else, Ms. Do?

11 MS. DO: No. Thank you, Your Honor.

12 THE COURT: Counsel, may Dr. Paul be excused
13 as a witness?

14 MS. DO: Yes.

15 MR. HUGHES: Yes, Your Honor.

16 THE COURT: Thank you.

17 Dr. Paul, you will be excused at this
18 time. Recall the rule of exclusion still applies,
19 like the other aspects of the rule, not attempting
20 to communicate with other witnesses until the trial
21 is over.

22 THE WITNESS: Thank you.

23 THE COURT: Thank you. You are excused.

24 As Dr. Paul exits, I'm going to go ahead
25 and order the recess at this time or declare a

1 recess.

2 Please remember the admonition.

3 I'm going to ask that the jury be
4 reassembled at 20 after, and I want to see the
5 attorneys a few minutes before that.

6 Thank you.

7 (Recess.)

8 (Proceedings continued outside presence
9 of jury.)

10 THE COURT: The record will show the presence
11 of Mr. Ray and the attorneys. The jury is not
12 present. At this point I just wanted to discuss
13 schedule before we call the jury back in.

14 Mr. Li.

15 MR. LI: Your Honor, we intend to move in
16 three items of evidence. Correction. Not three
17 items. Three audio clips and then a number of
18 waivers and then put on the record the exhibit
19 number for the CD that you had asked us to make.
20 And then we'll rest.

21 THE COURT: What might make sense is --
22 understanding that those issues will be resolved is
23 to get the jury back in and they can be excused,
24 then.

25 MR. LI: Yes.

1 THE COURT: Unless you're ready to go right
2 into rebuttal. If you have rebuttal evidence and
3 you're ready to start, then we would do that.

4 MS. POLK: We possibly will have rebuttal.
5 And we would not be ready to start, and we'd ask
6 for more time.

7 THE COURT: So rather than have a lengthy
8 discussion, I think we should call the jury in and
9 excuse them. But we'll take up the three -- the
10 issues that Mr. Li has pending.

11 MS. POLK: And, Your Honor, the state still
12 has pending the three client files relating to the
13 three victims.

14 THE COURT: I know that too. That's another
15 thing that needs to be discussed. So is there any
16 reason -- I would want to hear you announce that
17 you're resting in front of jury, of course.

18 MR. LI: Yes.

19 THE COURT: So why don't we have them come in
20 and we can deal with that.

21 And, Ms. Polk.

22 MS. POLK: Your Honor, it's the state's
23 understanding that the case law requires the Court
24 to make the inquiry of the defendant directly about
25 the decision whether to testify.

1 THE COURT: I don't know that it's required.
2 I generally do make that inquiry. I'll ask Mr. Li.
3 And Mr. Ray is obviously listening to Mr. Li's
4 responses.

5 What I want to make sure, Mr. Li, is
6 that Mr. Ray has had -- fully understands it's his
7 decision on whether or not to testify, that he's
8 been fully advised of that, he's had all the time
9 he needs to consider that very important decision.

10 Mr. Ray, have you heard all my questions?
11 I've directed them to your counsel.

12 THE DEFENDANT: Yes. Yes, I have, Your Honor.

13 THE COURT: Then, Mr. Li, please respond
14 and --

15 MR. LI: Yes, Your Honor. He has -- I would
16 answer affirmatively to all of the questions the
17 Court has posed. And it's our decision to --
18 subject to these evidentiary issues to rest.

19 THE COURT: Okay.

20 Mr. Ray, do you agree with that?

21 THE DEFENDANT: I do, Your Honor.

22 THE COURT: Thank you.

23 Then, Ms. Polk, Mr. Hughes, any further
24 record on that?

25 MS. POLK: No, Your Honor. No problem with

1 the record.

2 THE COURT: I think that's normally what I
3 would cover, as I indicated, whether that's
4 technically required or not. It's been covered.

5 So let's get the jury back in to --

6 MR. LI: Just -- Tom mentioned to me is the
7 Court intending to call the jury back into -- into
8 session tomorrow?

9 THE COURT: Well, I was assuming you would be
10 ready to proceed with any rebuttal tomorrow. So I
11 was. Yes.

12 MS. POLK: Your Honor, I don't know that the
13 state can be ready. We were operating on the
14 defense had represented to the Court that they
15 needed five to six days for their case.

16 THE COURT: A week give or take is what I
17 recall. Okay.

18 MS. POLK: So we weren't anticipating calling
19 witnesses until next week.

20 THE COURT: Mr. Kelly.

21 MR. KELLY: Judge, my anticipation was, then,
22 that perhaps we could use tomorrow to discuss other
23 legal matters such as jury instructions. I just
24 hate to inconvenience the jury, have them drive
25 over here simply to be excused was my thought.

1 THE COURT: No. I agree with that. I guess I
2 was just assuming you would be ready with the
3 rebuttal by tomorrow. But if not, we can work on
4 instructions tomorrow.

5 MR. LI: Your Honor, it escaped me. Just for
6 the record, we renew our Rule 20 motion.

7 THE COURT: And the rules cover that too, the
8 time for that. Well, you technically haven't
9 rested. So -- you made that, made the motion.
10 So --

11 MR. LI: Your Honor, perhaps what we can do is
12 after we rest we can address that. Assuming that
13 there is no witness available or there is no
14 rebuttal, we can address that tomorrow.

15 THE COURT: Okay. So I'll instruct the jury
16 to return regular time, 9:15 next Tuesday.
17 Correct? Is that what you're thinking?

18 MS. POLK: That is, Your Honor. The reason
19 I'm still standing is I heard Mr. Li talk about
20 moving into evidence some exhibits. I'm not sure
21 what those are. And just so the Court and counsel
22 knows, we're not stipulating to any exhibits. I
23 don't know what this other issue is that Mr. Li --

24 THE COURT: Let me get a list of those. I
25 think they're the clips. And I think that they're

1 being offered under the theory that other interview
2 excerpts were introduced, that there is evidentiary
3 purpose to them --

4 MR. LI: That's correct, Your Honor.

5 THE COURT: -- outside of what's in the text
6 or the actual content.

7 MR. LI: That's correct, Your Honor.

8 THE COURT: First of all, Ms. Polk, let's make
9 sure we have the pending issues clear. There is
10 still the three sets of records that have to do
11 with amounts paid for JRI events; correct?

12 MS. POLK: Yes.

13 THE COURT: Okay. That's one thing that's by
14 agreement. That's still been kept open.

15 Anything else from the state's view?

16 MS. POLK: No, Your Honor.

17 THE COURT: Okay. Then, Mr. Li, you were
18 going to be offering three exhibits?

19 MR. LI: Three exhibits, Your Honor. Well,
20 three exhibits, Your Honor. Exhibits 1084, 1085,
21 and 1086. These are clips that have been played
22 before the jury. They are respectively 1084, the
23 interview with Mr. Mercer on October 8, '09, in
24 which he indicates that the only thing different
25 was the wood. And we're introducing it for the

1 same reason that Exhibit 742 was introduced, which
2 is this is a lead that the state was in possession
3 of that they did not follow up.

4 It's not being offered for the truth. So
5 it's not a hearsay issue. It is exactly the same
6 as Exhibit 742. And so we're offering that for
7 that purpose.

8 Exhibit 1085 is a clip that was also
9 played of Mr. Mercer's interview on 10 --
10 October 9, 2009, in the interview with
11 Mr. Diskin -- Detective Diskin in which he again
12 identified the wood.

13 Again, the same reason is now the
14 statement is being made directly to the
15 investigating officer. There was testimony about
16 it. There is more -- and we played these clips to
17 Mr. Mercer himself. So the foundation exists. We
18 also played the clips to Detective Diskin. So the
19 foundation exists. So we'd offer that as well.

20 And then, lastly, Exhibit 1086, the clip
21 relating to the rat poison taken from the interview
22 October 9, 2009. Same foundation and same purpose.

23 There again, all various leads that were
24 offered to the state that the state did not pursue.

25 And of particular importance are the two clips that

1 were played -- or that were -- involved

2 Detective Diskin, who released the crime scene that
3 evening and did not go into the shed or -- you
4 know -- or ask any further questions about any
5 toxins that might have been used on the site.

6 I think it's critically important in
7 light of the testimony that Dr. Paul just offered,
8 in which toxicity is an extraordinarily important
9 issue here. And one of the questions -- you
10 know -- the state is taking the position that there
11 is no evidence of toxins on site.

12 And our position is that the state was
13 given -- through the police department was given
14 ample opportunity to try to identify whether there
15 were toxins on site. And these three clips are
16 directly relevant to that point. The foundation
17 has been laid repeatedly. And they're relevant.
18 They're not hearsay. And they should be admitted.

19 THE COURT: Okay. And the other open issues
20 that you've got?

21 MR. LI: The other -- sorry, Your Honor. I
22 didn't realize whether you wanted me to argue or
23 not.

24 THE COURT: Well, I think it's boiling down to
25 the need to address this before you rest anyway. I

1 think it would be awkward otherwise to say you rest
2 and then have -- if I say that the evidence is
3 going to be admitted, that would just be -- that
4 would be awkward. We need to decide this. I want
5 to know again what else is out there.

6 MR. LI: Okay. Then the other exhibits are
7 exhibits 417 through 440, and 442 through 447.
8 These are the waiver forms. We stipulated to the
9 state admitting through Detective Diskin the
10 various waivers and releases that were located at
11 JRI through the search that the state had conducted
12 of Mr. Ray's offices, JRI's offices on -- in
13 October of '09. We'd ask that these exact same
14 exhibits be admitted for exactly the same reasons.

15 THE COURT: Anything else?

16 MR. LI: I think -- I mean, I'm sure the state
17 will correct me, but I think the state agreed to
18 stipulate to the defense offer of Angel Valley
19 waivers. I would ask that we also admit all of the
20 JRI waivers.

21 THE COURT: Okay.

22 Ms. Polk or Mr. Hughes, I'd like to start
23 with the waiver issue first.

24 MS. POLK: Your Honor, the state would object
25 to the admission of any waivers without the

1 foundational testimony of the witnesses who signed
2 the waivers. The foundation that would be
3 important is from the witness did they read it?
4 What were their expectations? Much of the
5 questions the state has had the opportunity to ask
6 of the witnesses whose waivers came in. There is
7 no basis to allow what are, essentially, hearsay
8 documents without providing the foundational
9 witnesses for those documents.

10 MR. LI: Your Honor, I'd also -- I'm sorry.

11 MS. POLK: It's my understanding what the
12 defense is trying to do is get in waivers from all
13 the participants who did not testify at this trial.

14 MR. LI: Your Honor.

15 THE COURT: Mr. Li.

16 MR. LI: These are also business records and
17 kept in the regular course of business. They were
18 taken from the business site. Every -- we've had
19 ample testimony that every event had waivers.

20 Every single event had waivers signed for
21 them. They are kept in the office. We had
22 multiple Dream Teamers come in and say that's what
23 they do. They sign waiver. We had multiple
24 participants come in who have gone to other events
25 and say yes. That's what we do. We sign waivers.

1 These are kept in the regular course of business.
2 The issue of what a particular
3 participant's expectations are of the waivers is
4 not a foundational question. That's just a
5 question about what do you think about the waivers.

6 So, Your Honor, we'd ask that all those
7 waivers be admitted. We also think it's a little
8 sharp practice, a bit, to have us stipulate to
9 dozens of waivers, and then we ask for the same
10 reciprocation and we don't get it. That's
11 surprised us all on this side of the aisle.

12 THE COURT: I announced weeks ago when we had
13 an issue come up about foundation for business
14 records that when there are disclosed exhibits, I
15 don't want to have those exhibits precluded for the
16 lack of routine, uncontested, foundational
17 testimony.

18 So what I indicated at that time is I'm
19 going to give a party -- I wouldn't care if the
20 foundational witness is listed or not if the
21 exhibits are listed. So if these are business
22 records, I'm going to allow -- if it's going to
23 come to that, I'm going to allow the presentation
24 of a foundation witness to establish their business
25 records.

1 So, Ms. Polk, in light of that, you're
2 saying they're irrelevant also?

3 MS. POLK: Your Honor, I'm saying without the
4 context to allow suddenly waivers from participants
5 who were inside the sweat lodge, who had all sorts
6 of things happen to them that the jury has never
7 heard about, who would testify if they took the
8 stand -- we don't know what their testimony would
9 be about the relevance of that waiver to their
10 actions and their decisions. Did they read the
11 waiver or not?

12 But to suddenly just let in a lot of
13 waivers without requiring the defense to call those
14 witnesses to the stand and they would have -- each
15 would have their own story about what happened to
16 them in the sweat lodge.

17 And where -- it doesn't make sense to me,
18 quite frankly, to allow waivers pertaining to
19 witnesses who did not testify in this trial. I
20 guess I would ask the defense what are they -- why
21 do they want the jury to see waivers from
22 participants who did not testify without hearing
23 from those participants themselves?

24 THE COURT: Okay.

25 I'll direct the question back to Mr. Li.

1 MR. LI: Well, Your Honor, they are relevant
2 to this case because every participant signed a
3 waiver. And I don't understand why the state wants
4 to exclude relevant evidence on some foundational
5 issue that we were willing to stipulate to. We
6 even stipulated to the decedents' waivers. And
7 they obviously were not able to provide foundation.
8 And we feel it's a bit of a sharp practice at this
9 stage to make these kinds of arguments. And it's
10 just going to needlessly prolong the trial.

11 I mean, we can go find a foundational
12 witness who will say -- I think we've already
13 established that these are kept in the regular
14 course of business and are done at every single
15 event. We've had Dream Teamers already say that.
16 But if the Court wants an additional
17 witness to come in and say the magic words in this
18 sort of order that's said to establish a business
19 record, we can do that. But it will just take some
20 time to do that.

21 THE COURT: My point is I really wouldn't want
22 a witness to come do that.

23 MR. LI: Nor do we.

24 THE COURT: With regard to the relevance, just
25 the idea that everybody signed a waiver, I don't

1 know why there isn't just a stipulation that
2 everybody signed a waiver that's similar. Just
3 leave it at that. Why not that rather than all the
4 additional paper? They're identical to a number of
5 forms that are already in evidence. So why not
6 just a stipulation? It could arguably go to the
7 fact that everyone did sign them, that was a given,
8 and their argument whether or not everybody read
9 them.

10 I don't want to have an impression of the
11 percentage of people who said they read them. But
12 a number of people indicated they didn't. They
13 didn't pay any attention to them really. Some
14 people said they did in some detail.

15 So that would certainly be my suggestion
16 is rather than have that additional paper, can't
17 there be a stipulation? Because there has been a
18 lot of talk of waivers and what they might mean
19 and --

20 MR. LI: Your Honor, that's fine. I mean,
21 we're more than happy to stipulate that every other
22 participant signed a waiver.

23 THE COURT: I don't know that the state's
24 prepared to do that. But I think the evidence
25 shows that that, in fact, happened. And that's

1 what I'm suggesting might solve this.

2 MR. LI: Well, we actually do have -- for
3 whatever --

4 THE COURT: Go ahead, Mr. Li.

5 MR. LI: Your Honor, it just seems -- yes.
6 We -- if the state would be so kind as to stipulate
7 on this issue, we could resolve this right now and
8 not have to go through all of this.

9 MS. POLK: Your Honor, if I could just ask
10 Mr. Li. Does he know if the Dream Team signed
11 waivers?

12 MR. LI: I don't know. All I know is what the
13 government seized at the office, which is -- we do
14 not have the ability to control what they seized
15 and what they didn't seize.

16 MS. POLK: Can I ask if you have marked as
17 exhibits waivers signed by the Dream Team members?

18 MR. LI: I don't know.

19 MR. KELLY: Judge, I can answer. I happened
20 to present the testimony of two foundation
21 witnesses, Detective Diskin and Melinda Martin, who
22 was an employee of JRI. And I believe to the
23 testimony of those two witnesses, we've laid the
24 foundation. I think we can submit it on that
25 issue.

1 In response to Ms. Polk's question, I
2 know that Mark Rock did not sign a JRI waiver. He
3 did sign an Angel Valley waiver. Now, when I say
4 that, that's based on the evidence seized by the
5 detective. In other words, I have no independent
6 knowledge of a waiver. What we simply have is what
7 the government seized during the search warrant.
8 That's the best way out.

9 MR. LI: We don't have anything listed on --
10 to your question, we don't have anything listed on
11 our list. That doesn't prove the negative. That's
12 what we have.

13 MS. POLK: Your Honor, the state will
14 stipulate to the admission of the waivers that the
15 defense has marked. We will not stipulate to the
16 suggestion that everybody signed waivers, because I
17 don't believe that the defense has marked waivers
18 for Liz Neuman in particular.

19 But I would note that the state has still
20 pending these three client files. We have
21 repeatedly asked the defense to stipulate to them.
22 Really not gotten that response. And this -- if
23 we're going to stipulate to the waivers, I would
24 ask that the defense stipulate to the three client
25 files, and we can move along.

1 MR. LI: What we would be willing to do --

2 Thank you, Ms. Polk.

3 What we'd be willing to do is to enter
4 into a stipulation as along the lines of what the
5 Court suggested, which is how much for what events.

6 The problem with trying to redact these
7 documents is that they contain so much other
8 nonrelevant evidentiary detritus. And I think that
9 the Court is aware of that. It would be just as
10 easy to say -- you know -- Ms. Neuman paid "X"
11 amount of dollars for "X" events. You know, we can
12 itemize however they want to do it. It's just that
13 there is a lot of extra detritus in all of the
14 exhibits.

15 And then to actually figure out what
16 should be in and what should not be in, it starts
17 to be very strange. And the exhibit itself will
18 look like a patchwork. We had offered to submit
19 the receipts, which would cover that as well.

20 THE COURT: You had a set also that had the
21 events that -- had redacted that as well with the
22 amounts, some of the amounts.

23 MR. LI: What we had proposed -- when I
24 approached the bench and handed over proposed
25 exhibits, they were simply the credit card receipts

1 for the particular events. They don't say Modern
2 Magick \$2,000 or something like that. They just
3 were the receipts with the dates on them for the
4 particular -- those were in the client files.
5 Those do accurately depict what these various
6 clients paid.

7 We're happy -- that's what we submitted
8 to this court. The state was not -- did not accept
9 that as the redaction. And then the Court was not
10 able to rule on that particular issue. So one way
11 to solve it, and I'm trying to solve it in line
12 with what the Court has suggested, is to just
13 stipulate that here's what was paid for these
14 specific events, and we can just write it and sign
15 it. Done.

16 THE COURT: What's admissible are the events
17 and amounts paid by each of the people. That's
18 what's admissible.

19 MR. LI: We'd offer a stipulation to that
20 effect.

21 MS. POLK: And, Your Honor, we've had this
22 conversation before. What we believe we had marked
23 were the events, description of the events, and
24 then the credit card receipts. Those are business
25 records. I believe they comply with the court

1 order. And I would move for the admission of those
2 three exhibits.

3 I've never received anything from the
4 defense blacking out anything. What -- we tried to
5 reduce it to information. And it came from a
6 client file, for example, marked Kirby Brown. All
7 the papers had the business offices for James Ray
8 International pertaining to Kirby Brown in that one
9 file. We pulled out the things that didn't
10 specifically relate to her documentation where she
11 signed up and paid for an event. Those would be
12 business records.

13 The description of the particular prior
14 events that Kirby had attended in the past, for
15 example, are on those sheets of papers and are
16 relevant. We would move for the exhibits as the
17 state has prepared them.

18 MR. LI: The problem is I think the Court has
19 seen in the various descriptions, is it is not
20 relevant to this -- I think -- my understanding of
21 the what the state's position is is that the
22 relevance of how much was paid a particular event
23 is that that makes some extra committed to this
24 particular event or something like that.

25 So what the state -- I won't attribute

1 motives. But, basically, there is a lot of
2 language in each of the descriptions of what the
3 courses are that I think is entirely irrelevant to
4 this particular case.

5 We have -- we have in evidence a very
6 fulsome description of what Spiritual Warrior
7 seminar was about. The brochure has been admitted.
8 The packages have been admitted. Tapes of what
9 Mr. Ray says the whole program was about have been
10 admitted. We think everybody understands what
11 people were trying to do at Spiritual Warrior.

12 It's irrelevant what they were doing
13 at -- you know -- Modern Magick, Practical
14 Mysticism or whatever the other courses may have
15 been. Entirely irrelevant. That's why this court
16 has ruled that what's relevant is how much is paid
17 and the name of the event. And we are more than
18 willing to enter into a stipulation with the state
19 along those lines.

20 THE COURT: There has been testimony that
21 relates Spiritual Warrior to other events. There
22 has been discussion along those lines. But I
23 mention this in connection with the offer of
24 everything seized and the place where Mr. Ray was
25 staying. I have no idea what the jury might make

1 of that. Talk about possible First Amendment
2 issues. Just turning literature over, whatever
3 that is. Concerns there. And I have somewhat the
4 same concerns with having these descriptions out
5 there without anyone really discussing the
6 descriptions. There they go with the jury to make
7 of it what they wish.

8 Mr. Li.

9 MR. LI: Miriam hands me a note that also
10 notes that there is JRI staff handwriting on the
11 various forms. There is discussion about the
12 refund policy. There is policies regarding
13 installment payments. There is a lot of stuff in
14 there that's irrelevant to this case.

15 What is relevant according to the Court's
16 ruling is the amount and the event. And we can
17 stipulate to that. We can give them the receipts.
18 We could do something like that.

19 But these client files are filled with
20 the types of concerns that the Court has
21 identified. There are significant issues relating
22 to that relevance and, frankly, the First Amendment
23 and just no way to cabin what a jury might think
24 about these various courses and their descriptions.

25 THE COURT: The original ruling had to do with

1 the Spiritual Warrior. It was expanded to say
2 other events. And so that was the ruling. The
3 name of the events, the amount paid. That's what's
4 going to be admissible. If it can be done on the
5 exhibits in redacted form. But it's clear we're
6 going to have a hard time resting your case and
7 putting in that posture. Because I wanted that
8 done before the defense rests.

9 So I don't know. I think what I'd like
10 to do is tell the jury that the evidence will be
11 complete next week.

12 Is everybody comfortable with that?

13 MS. POLK: Yes, Your Honor.

14 MR. LI: Sure, Your Honor. Yes.

15 THE COURT: Tell them that and tell them that
16 there are legal matters to work on, and they will
17 be back next Tuesday. And then we can continue
18 with these issues.

19 But you will not be resting today
20 technically.

21 MR. LI: Okay, Your Honor. That's fine.

22 THE COURT: Okay. I want to get the jury back
23 in.

24 Thank you.

25 (Proceedings continued in the presence of

1 jury.)

2 THE COURT: The record will reflect the
3 presence of Mr. Ray, the attorneys and the jury.

4 Ladies and gentlemen, I called you back
5 in this afternoon. I'll just be talking to you for
6 a few minutes. It does appear that the evidence
7 will be completed next week -- all of the evidence.
8 There are some legal matters to attend to. So
9 that's something I'm going to be working on. And
10 in light of that, you are going to be excused at
11 this time. And you will return next Tuesday at the
12 regular time of 9:15.

13 So it will be a long weekend again.
14 Remember all aspects of the admonition, of course.
15 Follow that to the letter. And take care. And you
16 will be excused.

17 I'm going to ask the parties to remain.

18 We're in recess until next Tuesday,
19 9:15 a.m.

20 Thank you.

21 (Proceedings continued outside presence
22 of jury.)

23 THE COURT: The record will show that the jury
24 has left the courtroom. And we can continue with
25 the legal discussion, the various exhibits.

1 I'd like to get the numbers clear on all
2 these various exhibits.

3 Ms. Polk, the three exhibits the state
4 still has to introduce which will show all events
5 attended and the amounts paid, what are the
6 numbers, please?

7 MS. POLK: Exhibits 1018, 1019, and 1020.
8 Those are the exhibits as they stand today.

9 THE COURT: So still need a final form of
10 that.

11 MS. POLK: Your Honor, if I can ask for a
12 clarification. Just looking at one of the
13 exhibits, I just am not understanding what needs to
14 be further taken out. This is Liz Neuman.

15 MR. LI: May I approach, Your Honor?

16 THE COURT: Yes. Do you have copies?

17 MR. LI: Not handy.

18 THE COURT: That's okay. We can share.

19 What I ruled as admissible is the event
20 and the amount. I think descriptive information
21 such as when and where it was held should be there.
22 I think that time frame, that's admissible.

23 But, for example, Creating Absolute
24 Wealth, December 5th through the 7th, 2008, in
25 San Diego and amount, 1,048.50. That's the event.

1 That's what's paid, and that's when and where it
2 took place.

3 MS. POLK: And then black out from that page
4 the other event?

5 MR. LI: Everything else.

6 THE COURT: Yes. If there is no other events
7 on that particular page that were attended and paid
8 for.

9 MS. POLK: So black out the other events, and
10 then we can leave her information and the things we
11 had left before?

12 MR. LI: It would be so easy just to write the
13 name of the event, the date, and the amount paid
14 and where and then just stipulate to that.

15 THE COURT: Certainly the signature is fine.
16 The other payment again -- there are things written
17 on here. I don't know what that means. I don't
18 know what it means. And it's got different payment
19 plans that aren't checked or anything like that.
20 Certainly the signature and --

21 MS. POLK: The blocks that she didn't sign up
22 for would need to come out?

23 THE COURT: Yes. It's not going to leave a
24 lot left on that record.

25 MR. LI: Just so we're clear, I mean, it's

1 literally going to be everything except Creating
2 Absolute Wealth in San Diego, all of this deleted,
3 the amount. Everything deleted, all of this
4 deleted. And the signature, I suppose, and the
5 date would be what's left?

6 THE COURT: Yes.

7 MR. LI: Okay.

8 MS. POLK: The credit card receipts are fine?

9 THE COURT: If that shows the payment. Yes.

10 MS. POLK: What we'll do is redact them
11 further, provide them to counsel and see if we can
12 get that stipulation.

13 THE COURT: I really would like to see that
14 tomorrow. Those numbers would probably still be
15 intact, I would assume. It's going to be presented
16 under those same numbers.

17 MS. POLK: Yes.

18 THE COURT: They're not admitted yet, but we
19 will get a revised form.

20 Okay. Then the other item I really want
21 to take up now is -- let's go back to the question
22 of waivers that were not introduced through
23 witnesses.

24 MR. LI: I think they've stipulated.

25 THE COURT: Okay. I wasn't completely clear.

1 What is the stipulation?

2 MS. POLK: If -- the state is willing to
3 stipulate to the waivers that the defense has
4 marked.

5 THE COURT: Okay. And the clerk and I would
6 be very interested in getting the accurate numbers
7 on those.

8 MR. LI: I will get them.

9 THE COURT: Making sure the state sees them
10 and there is no dispute to what's being admitted.

11 MR. LI: 417 through 440 and 442 through 447.

12 THE COURT: Okay.

13 MR. LI: I believe that's all.

14 THE COURT: Okay. And I'd just like to make
15 sure is -- do you have those in a group or
16 anything?

17 Well, Mr. Hughes, Ms. Polk, I want to
18 make sure you look at those.

19 MR. LI: Your Honor, I apologize. There is
20 one -- there are two additional missing waivers.
21 One is Exhibit 154 and Exhibit 184.

22 THE COURT: Okay.

23 MR. LI: Sorry. 220. And I believe that's
24 it.

25 THE COURT: Okay. I just want to make sure

1 that, Mr. Hughes, Ms. Polk, you look at these
2 sometime before tomorrow. I'll go ahead and
3 announce that pursuant to stipulation, exhibits 417
4 through 440 inclusive, 442 through 447 inclusive,
5 also 154, 184 and 220 will be admitted. However,
6 again, I want you to have the time to double-check
7 the exhibits, the numbers.

8 Okay. This brings us to the items that
9 were mentioned at sidebar having to do with the
10 excerpts. I guess I misunderstood. I thought they
11 were being offered for the purpose other than the
12 one you mentioned, Mr. Li. You mentioned -- you
13 went ahead with the argument. And we need to do
14 that anyway. I want to have the jury have
15 everything before the principal case is rested by
16 both sides.

17 So, Ms. Polk, if you want to respond to
18 Mr. Li's arguments regarding those exhibits.

19 MS. POLK: Your Honor, did counsel give us
20 exhibits?

21 MR. LI: I gave you the numbers. And I'm
22 going to represent -- let me just backtrack. So
23 the Court had asked us to make a CD of all the
24 tapes that were played in court. And we have done
25 that. For the record, 1087. This is just for the

1 record. Some were used for impeachment purposes.
2 Some were used more substantively.

3 So, for instance -- you know -- the tapes
4 that we introduced with Mr. Rock. Those were for
5 impeachment purposes. We're not offering those as
6 evidence. There are three other exhibits which
7 have been culled from the tapes -- the same tapes
8 that we've played, which are exhibits 1084 through
9 1086. And these are various statements made by Ted
10 Mercer to Detective Diskin and Wendy Parkinson on
11 the evening of October 8.

12 And with respect to Detective Parkinson
13 and on the day of October 9 to Detective Diskin,
14 they relate to the wood. Two of the tapes relate
15 to the wood. And those are exhibits 1084 and 1085.
16 And one relates to the rat poison, which is
17 Exhibit 1086.

18 And -- you know -- as I said to the
19 Court, we are offering these in the same -- for the
20 same evidentiary reasons that 742, the
21 organophosphates tape, was admitted. The
22 foundation has been laid. So I don't think there
23 is any foundational question. The detective can
24 listen to them if he wants to to check up on us.

25 But these are tapes that we've played

1 repeatedly and the witness, Mr. Mercer, has
2 acknowledge. I think Debbie Mercer acknowledged
3 some of the tapes as well. And Detective Diskin
4 has acknowledged them in court. So I don't think
5 there is a foundational issue. The relevance I
6 think we've established. And then I don't think
7 there is any viable objection to them.

8 THE COURT: Well, 1087, then, is the
9 collection of excerpts played that were not
10 introduced with extrinsic evidence but they were
11 played?

12 MR. LI: Correct.

13 THE COURT: The state, I don't think, has had
14 an opportunity to review that yet.

15 Is that correct?

16 MS. POLK: That's correct.

17 THE COURT: So 1087 is going to be made part
18 of the record. But it's technically an exhibit.
19 It's something that needs to be part of the record
20 because it was played. And it's evidence before
21 the jury in some form or capacity.

22 MR. LI: Your Honor, just for the record, it's
23 a little bit of a belt-and-suspenders record with
24 respect to -- just sort the Court knows. The way
25 we did this is we went through the transcripts and

1 found how they were identified. And in the
2 transcripts it's always something like, Your Honor,
3 we're going to play -- you know -- Exhibit 630,
4 time stamp -- you know -- 2:18 through 2:12 --
5 through 220, something like that. And then that's
6 what the clip is. And so they all match up.

7 Or we might say lines -- you know --
8 transcript page 12, lines 1 through 7. And so
9 that's how it all lines up. So this is a more
10 convenient way to have the record. But the record
11 actually is -- since we're not putting these in
12 front of the jury, the record is actually somewhat
13 clear as to what's actually being played.

14 THE COURT: Because of the transcript.

15 MR. LI: Because the transcripts are there
16 and -- and the information. But this is probably
17 more convenient.

18 THE COURT: My next question is -- 1087 will
19 be part of the record much as an offer of proof
20 becomes part of the record. It goes to the court
21 of appeals. It's not actually, in effect, that
22 kind of item.

23 My next question is are you saying that
24 these other exhibits that you want to offer are
25 contained in what's already been played?

1 MR. LI: Yes. Yes. Yes. So what we've done
2 is we've taken all the tapes that were played here,
3 and then we've pulled out the ones that we want
4 admitted. And those are the ones -- exhibits 1084
5 through 1086.

6 THE COURT: Okay.

7 And, Ms. Polk or Mr. Hughes, I ask for
8 your response.

9 MS. POLK: Your Honor, we would object to the
10 admission of these additional clips, first of all.
11 We don't know specifically what clips the defense
12 is talking about. They haven't been provided to
13 us. I agree that during the trial many witnesses
14 were there -- they were impeached when they
15 couldn't remember or they disagreed with something.
16 And in that context excerpts were played for the
17 jury.

18 But that was the context. It was in the
19 form of impeachment and it was because a witness
20 couldn't remember. Or actually most of the
21 witnesses just couldn't remember. And in that
22 context the Court allowed certain excerpts to be
23 played.

24 Now the defense is taking certain
25 excerpts again. They haven't provided us with this

1 audio. I don't even know what it is. Although
2 he's given me the topic. And now they want to turn
3 that, give it the same status as evidence. It is
4 clearly hearsay. The defense is suggesting that
5 it's not being offered for the truth. But clearly
6 it's being offered for the truth. And the
7 relevance of clips from interviews is minimal
8 compared to the confusion to the jury.

9 Witnesses have testified. And in this
10 trial witnesses have given full context to
11 statements that they made back on October 8 or
12 October 9. But to pull out excerpts of those
13 interview statements and give it the same status as
14 an exhibit, it gives it too much weight and takes
15 it out of the context of their testimony.

16 There is no basis to now go back, make
17 clips of interviews from early on and suddenly
18 offer them as exhibits. If they wanted to offer
19 them as exhibits, the time to do so was when
20 Mr. Mercer was on the stand.

21 They did play clips for the jury. I
22 agree with that. Again, I don't know what clips
23 they're talking about. But they were played in a
24 permissible fashion for demonstrative purpose and
25 for impeachment, not as exhibits. And now the

1 defense wants to suddenly take clips and offer them
2 as exhibits. There is no basis to do that.

3 THE COURT: Mr. Li.

4 MR. LI: Your Honor, I think they were also
5 offered to Detective Diskin -- and to the extent
6 that the state needs to confirm what the discs are,
7 we're more than happy to sit here and play them
8 right now. And the Court doesn't have to be part
9 of that.

10 But these are the -- two of the tapes are
11 interviews with Detective Diskin. And the point is
12 they're not being offered for the truth of the
13 matter asserted. We have never said that the wood
14 or the rat poison actually killed folks. What
15 we've -- you know -- we've had days of testimony
16 about organophosphates.

17 These are all just clues that were
18 identified for the detective, with all due respect,
19 that were not followed up on. And that has been
20 the point of -- from opening statement, Your Honor,
21 that they looked in one direction and one direction
22 only. And this is evidence that's directly on
23 point to that.

24 And I think it's even more critical in
25 light of the cross-examination of Dr. Paul. Today

1 Mr. Hughes was saying well, listen Dr. Paul. You
2 have no evidence that any poison was ever at
3 Angel Valley. We heard at the Rule 20 argument
4 that the state believes it's proved beyond a
5 reasonable doubt that there was no poison at
6 Angel Valley.

7 And here we have clues early on on the
8 night of the accident and the next day after the
9 accident of clues that were presented to the police
10 that were not followed up on. And that's directly
11 in line with Dr. Paul's statements. So what we had
12 intended to do is just introduce these. We don't
13 see the objection.

14 The other alternative, which I don't want
15 to do because I don't want to waste time, is you
16 just play these clips for Detective Diskin, get him
17 up on the stand and say did you hear this? Is that
18 you? Yes. And then move them in at that point.

19 It seems silly that we would have to do
20 that in light of the fact that there is no dispute
21 about these tapes. More than happy to play them
22 for them, you know. It takes the 10 minutes it's
23 going to take to do, have them listen to them. And
24 we play them in court.

25 I don't understand the objection.

1 They're not being offered for the truth of the
2 matter asserted. They're being offered because
3 they were clues that were provided to
4 Detective Diskin that were not followed up on.

5 THE COURT: Just seems to single out certain
6 statements in an interview.

7 How long are they all together?

8 MR. LI: They're the exact same clips the
9 Court has already heard. They're probably -- if
10 they're more than a page and a half of transcript,
11 it would surprise me.

12 THE COURT: So to single out certain parts of
13 an interview the area has been covered completely.

14 MR. LI: But, Your Honor.

15 THE COURT: Mr. Li.

16 MR. LI: Sorry. The point is that part of it
17 is the tone that these folks make when they tell
18 the detective. So it's not just --

19 THE COURT: Well, that's a different argument.
20 And that's the argument you were making at bench.

21 MR. LI: It's part of the same thing.

22 THE COURT: You made -- that's a different
23 argument, and it's one that is unusual. But it
24 came up in the context of people saying they're
25 really in shock. And so that's why my version was

1 so different. And I don't know that that's the
2 case with this person.

3 MR. LI: No. No. Okay. So the tone relates
4 to impeachment of various witnesses for their
5 current testimony on the stand. The point that's
6 being made in these tapes -- I'll give you one
7 example -- is the 10809 tape with
8 Detective Parkinson. So she's asking him what was
9 different. And bam. You know, right away he says
10 it was the wood. And Debbie Mercer is sitting
11 right there, and they're both there.

12 And the point is that that's the quality
13 of evidence that the state had that they ignored.
14 It's not simply that a witness says oh -- you
15 know -- it might have been the wood. Could have
16 been the wood maybe. It's the fact they
17 immediately -- they're being asked something.

18 And it's not like they hem and haw or
19 they're being cross-examined into it. They offer
20 it up. Nobody says could it have been the wood?
21 Bam. They offer it up.

22 With respect to the rat poison, it's the
23 same thing. You know, it's not that
24 Detective Diskin asks him what about rat poison?
25 Did you guys use rat poison on that?

1 It's just they're talking, and then all
2 of a sudden Ted Mercer says oh. There was rat
3 poison there, chunks of it. That sort of thing.
4 And the way he describes it is important because
5 those -- that's -- it's to the detective. It's the
6 quality of evidence that he had as of October 9,
7 2009, from a witness who is saying it could have
8 been the wood, could have been the rat poison, and
9 then there is no follow up.

10 THE COURT: And it was all played before and
11 all covered before.

12 MR. LI: Your Honor, as part of closing
13 arguments -- first of all, it's evidence. And it
14 cannot be that it's not relevant. It's clearly
15 relevant. So then the question becomes is it -- is
16 there a hearsay objection to it? Is there some
17 other evidentiary rule that keeps it out?

18 The answer to that is no because there is
19 no hearsay objection, just as there is no hearsay
20 objection to the Exhibit 742, which discusses
21 organophosphates on the night of the incident.

22 All of this is relevant, and it's
23 important to the defense. And we would like to
24 play at least portions of it in closing argument
25 because it's evidence of what the detective had.

1 And it's more -- it's better if the jury hears --
2 excuse me -- hears it from the witness's own
3 statement on the night than some lawyer saying what
4 he says the tape said; and then you say when you
5 instruct, remember, ladies and gentlemen, what the
6 lawyers say is not evidence.

7 So that's the -- that's why it's
8 important. If I get up and I say and then
9 Mr. Mercer said blah, blah, blah; and then -- you
10 know -- Detective Diskin said blah, blah, blah, and
11 just read the transcript, it's going to be followed
12 by the Court's instruction that what the lawyers
13 say is not evidence. This is evidence. It's an
14 accurate tape-recording of what this witness, this
15 investigator, heard.

16 THE COURT: It's already been played. You can
17 already play it in closing arguments, can't you?
18 Why couldn't you if it's already been played?

19 MR. LI: Well, I don't understand --

20 THE COURT: Mr. Li, really, it's already been
21 played. Those arguments are made. And it would be
22 available at closing arguments as well, it would
23 seem.

24 MS. POLK: Your Honor, I would not agree with
25 that.

1 MR. LI: Yes. I'm anticipating that.

2 THE COURT: You would not agree because -- it
3 was played, though.

4 MS. POLK: It was played to impeach. It was
5 never admitted as an exhibit. And clearly you can
6 impeach a witness if they are testifying
7 differently or denying or if they cannot remember.
8 And those are the reasons I believe the Court
9 allowed certain statements to be used for
10 impeachment. But under the rule, when you impeach,
11 that doesn't then become an exhibit that gets to be
12 played for the jury.

13 THE COURT: I agree. If there wasn't the
14 limiting instruction there -- if that's the case,
15 it wouldn't be admissible. There has to be a
16 correct limiting instruction for that.

17 Mr. Li.

18 MR. LI: Fine. I mean, that's fine with me --

19 THE COURT: I agree. If it came in solely for
20 impeachment before, then it's being offered now as
21 substantive evidence as an exception to the hearsay
22 rule.

23 MR. LI: Technically no. Not being used --

24 THE COURT: Not the exception. No. You're
25 right. It's not being offered for hearsay

1 purposes.

2 MR. LI: Right. It's simply what this
3 detective was told.

4 THE COURT: Right. So with the limiting
5 instruction, it's admissible.

6 MS. POLK: Your Honor, may I respond to that?

7 THE COURT: Yes.

8 MS. POLK: Again, allowing the defense to
9 create little clips from interview statements that
10 witnesses made early on and suddenly make that an
11 exhibit unduly emphasizes little bits and pieces
12 and takes out of context what witnesses have said.
13 The evidence in this case is what
14 witnesses say from the stand. And to the extent
15 that they are not correctly remembering something
16 in the past when their memory is refreshed, either
17 they admit or they continue to deny it in the form
18 of impeachment -- but the evidence is what
19 witnesses say on the stand.

20 In the interview that Mr. Li is referring
21 to, there are lots of statements by Ted Mercer
22 about what went wrong. And in that same interview
23 where he says well, maybe it was the wood, he also
24 says Mr. Ray's events are extreme. They are more
25 extreme than anybody else. People only get hurt at

1 Mr. Ray's events.

2 And suddenly the Court is going to allow
3 the defense to make a clip of a part of
4 Mr. Mercer's earlier statement where he talks about
5 wood and give that much more weight than the other
6 things he says in the interview, which are that
7 Mr. Ray's events are more extreme and people only
8 get sick when Mr. Ray is conducting the ceremony
9 and some other things, all of which he said from
10 the stand as well. And suddenly what the defense
11 wants to do is make a clip from an earlier
12 statement to give it more weight than the rest of
13 Mr. Mercer's testimony.

14 The jury decides the weight and the
15 credence of Mr. Mercer's testimony. What the
16 defense wants to do is give undue weight to
17 something extracted from an interview 18 months ago
18 and now suddenly present that to the jury hoping
19 that the jury forgets the rest of what Mr. Mercer
20 said.

21 There is just no basis for it. It unduly
22 singles out a part of what Mr. Mercer said 18
23 months ago. And it gives it more weight and
24 relevance and causes confusion. The jury doesn't
25 know. Why is some little excerpt from Mr. Mercer's

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1 statement in evidence, and where's the rest of his
2 interview? I think I remember what he also talked
3 about, the event being more extreme. But suddenly
4 that's not available for us, and this little
5 excerpt where he talks about wood is.

6 There is no basis to allow the defense to
7 create -- to pick and choose from those early
8 interviews what they want, suddenly turn it into an
9 exhibit so they can play it for the jury. The jury
10 takes it back and not -- what about the rest of
11 what they said?

12 What it goes back to, Your Honor, is what
13 is said on the stand. What is evidence in this
14 case is what the witness says on the stand when the
15 jury has the opportunity to observe them and
16 determine what weight and credibility to give to
17 that witness's testimony.

18 THE COURT: Ms. Polk, the basis is it's
19 nonhearsay. And the defense said in their opening
20 that one of their claims was leads were not
21 pursued. And so this is a nonhearsay item of
22 evidence that, in fact, very early on there were
23 these leads to pursue that weren't. That's the
24 argument.

25 So there clearly is a basis. I don't

1 understand why you're saying it's not a basis.

2 Seems to me you're arguing 403. It really singles
3 out something and it's just unduly prejudicial in
4 that context because it ignores other statements
5 that the witness made.

6 MS. POLK: That is exactly it, Your Honor.
7 What we said -- what I said in my opening is that
8 Mr. Ray's events are more extreme. The defense
9 said well, they didn't follow -- they didn't look
10 into the wood. So if the jury gets a clip, then,
11 of Mr. Mercer's statement where he says oh, I don't
12 know. Maybe the wood was different, well, then the
13 jury should get a clip where Mr. Mercer said
14 Mr. Ray's events were more extreme and people only
15 get sick when it's a Mr. Ray event.

16 I would move that clips of those
17 statements be admitted as well. For that reason,
18 under Rule 403, then, I think the -- I think you
19 get my point. Why are we going to let in the piece
20 about wood because Mr. Li talked about it in his
21 opening -- in our opening what we said to the jury
22 was from the beginning what this detective heard
23 from Mr. -- starting with Mr. Mercer that very next
24 day was how extreme Mr. Ray's events are. And that
25 helped decide the direction of his investigation.

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1 If the defense get in, then, a clip where
2 Mr. Mercer says well, maybe it's the wood, then the
3 same argument ought to apply to letting the state
4 move in a clip where Mr. Mercer in that same
5 interview says but these are extreme, and people
6 only get injured, only get sick, when it's
7 Mr. Ray's events.

8 MR. LI: Here's the difference, Your Honor: I
9 am not going to argue that it is the wood. Okay?
10 I'm not going to argue that it's rat poison. What
11 I'm going to argue that there were signs of
12 toxicity. And we've heard tons of evidence that
13 they couldn't rule out organophosphates.

14 And I'm going to argue that Exhibit 742,
15 in which an EMT personnel says it could be -- what
16 he says on the tape about organophosphates, that
17 that was something in the possession of the
18 government on the night of the accident, and they
19 didn't follow up on that.

20 And you know what else they didn't follow
21 up on is all of these tapes that were said to
22 Mr. -- Detective Diskin about wood and rat poison
23 when they could have. They could have gone into
24 the shed. They didn't. And those are
25 extraordinary.

1 So we're not offering these clips for the
2 truth of the matter asserted. We're offering them
3 for what happened -- you know -- what
4 Detective Diskin didn't do. And we've been saying
5 that from the beginning of the case.

6 The difference is that Ms. Polk is
7 arguing that, well, we should offer prior
8 consistent statements with what Mr. Mercer said on
9 the stand to prove the truth of the matter
10 asserted. The state is arguing that Mr. Ray's
11 extreme heat challenge, as they put it, is what
12 caused these deaths. They just want to put tapes
13 for the truth of the matter asserted about that.
14 That's not -- that is inappropriate.

15 It is appropriate to offer things that
16 are not being offered for the truth of the matter
17 asserted. And the 403 objection, in light of the
18 fact that this is a criminal trial where Mr. Ray's
19 liberty is at stake, does not, in my view,
20 Your Honor, with all due respect, hold a lot of
21 water.

22 I mean, these are -- this is evidence of
23 exactly what this detective was told and did not
24 follow up on. It is extraordinarily important that
25 right after he was told twice about rat poison in

1 the shed and about the wood on the 9th, that's the
2 same day he releases the scene to the Hamiltons for
3 them to do whatever they want to do with no further
4 investigation.

5 And then we have the Hamiltons coming in
6 here and doing what they did in front of this
7 court, telling these -- you know -- these jurors
8 that they've never, ever, ever used poison ever
9 except for a few times when they did -- when
10 talking to the bugs wouldn't work.

11 So it is not -- it would be improper to
12 not allow under 403 grounds the introduction of
13 these tapes.

14 MS. POLK: And, Your Honor, if I may respond.
15 That logic applies to both sides. Mr. Li is saying
16 he wants his clips in so he can argue about the
17 direction that the detective's investigation did or
18 did not take. The same thing for the state, then.
19 The portions of Mr. Mercer's interview where he
20 directs the detective to the extreme nature of
21 Mr. Ray's events and that other people aren't
22 getting sick, that dictates the direction that the
23 investigation takes.

24 There is simply no logic in the defense
25 arguing that their clips should come in to show the

1 jury what he's not pursuing and the state's clip in
2 that same interview where Mr. Mercer talks about
3 the extreme nature, somehow that doesn't come in.

4 It's the same logic. If it comes in to
5 somehow be able to argue to the jury the direction
6 the investigation takes, then the entire interview
7 should come in so that we can give fair context to
8 the clip that Mr. Li is trying to single out.

9 There is no logic to allow that little
10 piece and not allow the context and not allow the
11 statements about the extreme nature of Mr. Ray's
12 event.

13 THE COURT: So there is an element of 106
14 along with 403.

15 It seems to me, Mr. Li, you're not
16 offering it for the truth. You're offering because
17 it's possibly true and should have been pursued.

18 MR. LI: Well, I'm offering it -- well, yeah.
19 It was possibly true on the date -- on October 8,
20 2009, nobody had any idea what happened really.
21 Okay? So -- in any medical sense. And
22 Detective Diskin is given this -- the following
23 information. Detective Diskin isn't but the
24 government is. Organophosphates, the wood, on
25 October 8.

1 On October 9 Detective Diskin personally
2 is given the following information: The wood and
3 rat poison.

4 THE COURT: Well, you've indicated that you
5 might call Detective Diskin. You've said that
6 right along.

7 MR. LI: Just for foundational purposes.

8 THE COURT: Well, but he also on one of the
9 interviews was the one -- was the recipient of the
10 information; right?

11 MR. LI: Yeah. Well, he --

12 THE COURT: So there is that. So you
13 certainly can call witnesses for your case. With
14 regard to the playing of the interviews, it's just
15 such an unusual aspect of a case anyway. But --
16 yeah. If it's a question of what's being focused
17 on and he could have done this to the exclusion --
18 now Ms. Polk is saying she wouldn't be offering it
19 for the truth either. What, basically, came out in
20 all of this, in the testimony, it's being offered
21 to show where the focus went.

22 MR. LI: That argument, Your Honor, with all
23 due respect to the county attorney, it's not -- I'm
24 trying to pick the right word that's not -- that's
25 appropriate for the --

1 THE COURT: But something that -- you're going
2 to suggest that it isn't something that the jury
3 should be able to sort out?

4 MR. LI: I mean, there is a big difference.
5 First of all, there is -- we've had a 404(b) ruling
6 about the extreme nature and all of those sorts of
7 things. So the idea that -- frankly, it is the
8 state's case, it is the state's theory, the other
9 portions of the tape. That's been the state's
10 theory from the beginning that oh. Mr. Ray has --
11 conducts these extreme sweat lodges.

12 We've had numerous attempts by the state
13 to introduce as much evidence about that as
14 possible. And what this court has seen is that has
15 not actually materialized in the same way that is
16 advertised by some of the declarants before they're
17 subjected to cross-examination, Debbie Mercer being
18 a perfect example, before Mr. Kelly opens his
19 mouth. I exaggerated.

20 This is exactly what the state's theory
21 is is that there was some extreme nature of the
22 sweat lodge that caused these deaths. Okay? And
23 the point is they would then offer these same tapes
24 to just confirm that theory.

25 The difference is that we are suggesting

1 you never even looked at these other points and you
2 were given information early. That's -- these are
3 very different things that are being sought to be
4 proved.

5 We are not going to stand up after
6 showing -- playing any tape or something like that
7 and saying Detective Diskin heard about rat poison.
8 He heard about wood. He heard about wood again.
9 And we're not going to sit there and say and then,
10 ladies and gentlemen -- you know -- we've proven
11 that these people died from wood poisoning. We
12 haven't. One, it's not our burden.

13 But the point is that they were given all
14 these clues and did not follow them. And just for
15 the record, Ted Mercer doesn't say oh, well, it
16 might have been the wood. That's not how he says
17 it. He just says, it was the wood. It had to be
18 the wood. And that's why it's important to hear
19 the tapes.

20 THE COURT: And that's the argument you made
21 at bench before.

22 MR. LI: Yes.

23 THE COURT: And that's a distinct argument.

24 MR. LI: It's not to impeach him so much as to
25 show what this detective and the government had in

1 its possession as to what clues could or could not
2 be followed.

3 Your Honor, this one seems fairly
4 straightforward. It has been the defense theme
5 throughout this case. We have hit it on every
6 single -- just about every single witness we can.
7 And we've said it since opening statement that this
8 is what this case is about, at least in part.

9 And then we just finished with Dr. Paul,
10 where Mr. Hughes is suggesting well, you don't have
11 any evidence of any poisons at Angel Valley, do
12 you?

13 And -- you know -- the answer to that is
14 well, you know what. There were a lot of clues
15 that were being handed over to the state. The
16 state are the only people who can actually do the
17 investigation. And what do they do? They trusted
18 the Hamiltons to tell them the truth. If they say
19 there is no poison there, that's okay. That's all
20 we need to know.

21 When, in fact -- you know -- we have them
22 saying -- you know -- an employee and a former
23 employee and then later former employee of the
24 Hamiltons talking about toxins and poisons. And --

25 THE COURT: Thank you, Mr. Li.

1 Ms. Polk.

2 MS. POLK: Just briefly, Your Honor. The
3 Court is correct. All of this has already come out
4 in front of the jury through the testimony of
5 witnesses. And that's where the jury is supposed
6 to hear it. When the witness is on the stand, the
7 parties have the opportunity to examine and
8 cross-examine, and then the jury determines what
9 weight to give the information from that witness.

10 All this information that the defense
11 wants to come in through a clip already came in
12 through the witnesses. So the jury has heard it
13 all. What the defense is trying to do now clearly
14 implicates Rule 403 and 106. Because they want to
15 single out a piece of an earlier statement and give
16 it undue weight.

17 They are arguing to the Court that they
18 want to do it to -- on the nonhearsay theory that
19 the little clips that they want to pull out are
20 relevant to show the focus or the lack of the focus
21 by this detective on certain aspects, which would
22 be the same reason that the state would then offer
23 little clips as well.

24 I wouldn't be offering clips to prove
25 that Mr. Ray's events are extreme. There is plenty

1 of other evidence of that. But early on the fact
2 that the Mercers tell the detective it's the
3 extreme nature, that determines the focus of the
4 investigation.

5 If the Court is going to let in isolated
6 clips from earlier statements on the theory that it
7 has to do with the direction the investigation took
8 or didn't take, then the Court would need to let in
9 the state's clips as well on that same issue, which
10 is well, what direction does the investigation
11 take, not offered to prove the truth, but the
12 effect on the detective, the direction the
13 investigation takes.

14 Two options I see, Your Honor, is either
15 the state would stipulate to admitting the entire
16 interview of Mr. Mercer both on the 8th and the
17 9th. That would solve this problem. And the sides
18 can both equally put them in the context that they
19 deserve to be in, which, by the way, the wood
20 reference was when the detective said to Mr. Mercer
21 well, was there anything that was different? And
22 then that's when Mr. Mercer said the wood. That's
23 the context.

24 But to me the better solution is,
25 frankly, to observe the rules of evidence, the talk

1 about how what comes in in the trial, what the jury
2 hears from a witness, and let them decide what
3 weight to give.

4 The defense can make all the arguments
5 they've just made to the Court because that
6 evidence is in, because the witness on the stand
7 said yes, I did say what's different. It's the
8 wood. And I did say maybe I saw rat poison in the
9 shed. He admitted all of that. So what's the
10 purpose in taking clips from early interviews out
11 of context to give them undue weight? And that's
12 what's going on.

13 So I offer either of those two. I guess
14 three solutions. If the defense is going to be
15 allowed to make some clips, then I would offer some
16 clips as well that would relate directly to the
17 focus of the investigation.

18 The second option would be let's admit
19 the entire audios of both of the interviews of
20 Mr. Mercer. And the third would be not let any of
21 it in.

22 THE COURT: Do you have the clip, the excerpt,
23 with regard to the wood ready to play?

24 MR. LI: Yes, Your Honor.

25 THE COURT: I'd like to hear that again.

1 MR. LI: There are two statements relating to
2 the wood, Your Honor.

3 MS. POLK: Your Honor, can we have a moment to
4 get our transcript out before Mr. Li plays it?

5 THE COURT: Yes.

6 MS. POLK: Do you have the transcript number?

7 MR. LI: This one is -- I'm sorry. We're
8 playing exhibit what's been marked as 1084.

9 MS. POLK: And I'd still like a moment if I
10 could.

11 MR. LI: I think the time stamp is something
12 like 10:35. Sorry. 11:35.

13 MS. POLK: Are you able to --

14 MR. LI: I just don't have the transcript.
15 You know, we can just -- it's pretty clear. So we
16 could just play it. There is no jury here.

17 So is that all right, just in the
18 interest of time?

19 THE COURT: I'm not going to rule tonight.

20 Ms. Polk, you will have plenty of time to
21 get that.

22 (Exhibit 1084 played.)

23 MR. LI: I'd forgotten another point of that
24 particular tape. He mentions Rotillo Vasquez, who
25 is the guy who actually cuts the wood. That's

1 another point that the detective did not follow up
2 on.

3 THE COURT: Thank you.

4 MS. POLK: First of all, again, Mr. Li talking
5 about Rotillo. That came out on the stand during
6 testimony when the witness was subject to
7 cross-examination. And other witnesses were asked
8 about Rotillo as well. So the fact that something
9 in an earlier interview is there, again, singling
10 it out.

11 But more important, Your Honor, is where
12 that audio stopped was on page 11, line 26. And I
13 would note that on page 12, line 10, the detective
14 said, and you said the ones previously with James
15 Ray had people gotten sick before?

16 Ted Mercer says, yes. Every time they
17 come out, they're crawling out. We have to pull
18 them out of the sweat lodge.

19 Debby Mercer says, they're passed out on
20 the side.

21 Ted Mercer says, their eyes are rolling
22 in the back of the their heads.

23 Further down on line 27 Ted says,
24 convulsions. Oh, she was bad.

25 Debbie Mercer says, shock.

1 So that's immediately following the clip
2 that they just played but preceding the clip. But
3 in the interview they played something that starts
4 on page -- I believe it's page 10 of the
5 transcript. On page 8 of the transcript, the
6 detective is trying to figure out what's different.
7 Before we get to that reference, on page 8 of the
8 transcript, she's asking the Mercers about prior
9 ones.

10 Ted Mercer says, this is our third one.
11 We've probably done five or six others.

12 Debbie Mercer says, other than James.
13 And Edgerton says, are they all pretty
14 similar?

15 The Mercers says, no.

16 The detective says no?

17 Ted Mercer says, James Ray is very
18 extreme.

19 And then Debby says, well, he encourages
20 them to stay in, and it's super hot.

21 And Ted Mercer says, yes. He really --
22 we almost didn't do it because we were concerned
23 about how he does his sweat lodges. Because we
24 have done a lot of sweat lodges, and we've never,
25 ever had anybody come out sick. You know, they

1 were hot. They wanted to come out. But they're
2 very easygoing and mellow.

3 And then Debby says, yeah. It's more of
4 a ceremony, referring to the Native Americans. But
5 James Ray is more of a contest.

6 The point is, Your Honor, that -- and
7 further down on page 9 shortly before the comment
8 about the wood, Ted Mercer says -- the detective
9 says, so you've done two prior with James Ray?

10 And Ted says, yes. And the same kind of
11 thing goes on. I mean, he cooks them. He really
12 cooks them. And there is -- before he goes --
13 before they go into sweat lodge, they go on the
14 Vision Quest.

15 And then it goes up to the next page.
16 And the detective says, what was different today
17 than the previous two with James Ray?

18 My point is when you start taking these
19 audio clips out of context, it unduly emphasizes
20 then to some part about the wood. And in terms of
21 the focus of the investigation, what the detective
22 hears are all these other comments about the
23 extreme nature, about other events when people
24 don't get sick. And the defense now wants to take
25 out of context a clip and give it undue weight and

1 turn it into an exhibit.

2 THE COURT: Takes us back to the issue that
3 came up regarding redirect of Detective Diskin,
4 only in this case it would have to do with
5 cross-examination. And it's a question of the
6 investigation going right back into why the focus
7 was somewhere else.

8 I remember trying to craft a ruling that
9 would permit the point being made without bringing
10 in, essentially, a bunch of hearsay. And it's
11 going to bring up that same problem. These are the
12 same issues we were dealing with before.

13 Mr. Li.

14 MR. LI: But the Court did -- they're not
15 quite the same. The Court did craft a ruling in
16 which Detective Diskin was allowed to explain
17 himself, which he did.

18 The difference here is it's undisputed.
19 I mean, he spent a bunch of time talking about all
20 of the reasons why he followed this particular
21 investigative course.

22 THE COURT: Mr. Diskin is indicating he would
23 like to have explained more. But the idea was to
24 balance.

25 MR. LI: Of course. And -- and -- and we

1 would argue that there are substantial
2 constitutional reasons why you have to strike a
3 balance. That's exactly what the Court's rulings
4 were intended to do, which is proper in a courtroom
5 to strike a balance.

6 But what's not proper is for the defense
7 not to be allowed to play the evidence that the --
8 that the detective was actually handed and heard
9 and then just not be allowed to play it. That's
10 just not proper.

11 And then what the state's argument here
12 is, essentially, let's put on all these other tapes
13 of Ted Mercer saying -- you know -- confirming our
14 case, which is being offered for the truth of the
15 matter asserted, Your Honor. It is.

16 That's the -- that's the -- you know --
17 fundamental difference. It is absolutely being
18 offered for the truth of the matter asserted. They
19 can find some other way to articulate what their
20 position is. But the reality of it is that is
21 exactly what --

22 You know, we heard Ms. Polk's Rule 20
23 argument, which is exactly in line with what
24 Mr. Mercer says in the parts of the tape she wants
25 to play. That's not how it works.

1 The difference is -- you know -- here we
2 are -- it's not being offered for the hearsay.
3 It's being offered for the effect it had on this
4 particular listener. Whereas, if you wanted to
5 play the entire Ted Mercer tape, then you would be
6 offering it for -- the parts that they like they
7 would be offering for the truth of the matter
8 asserted, which you cannot do.

9 The other point I'd make, Your Honor, is
10 that the government has throughout this case, at
11 least in the early stages of the case, plucked out
12 all parts -- all manner of Mr. Ray's various
13 statements relating to how he views the world and
14 how he -- you know -- ideas he's suggesting to the
15 various participants.

16 And then -- you know -- I don't recall
17 how many clips we were originally given, some
18 hundred and something clips. And we were as trial
19 was progressing -- you know -- trying to figure out
20 a way to do that fairly.

21 So I don't think this idea that -- you
22 know -- Mr. Ray -- you know -- that you can clip
23 one portion and not the other portion and that
24 somehow that's inherently unfair -- I don't think
25 that's accurate.

1 I also don't think Rule 106 overcomes the
2 hearsay issues that the state wants to -- wants to
3 do and also doesn't overcome Mr. Ray's
4 constitutional rights to due process. It cannot be
5 that Rule 403 somehow trumps our ability to put on
6 evidence of his -- you know -- that directly
7 implicates the state's investigation. It is the
8 exact same reasoning as this court utilized in
9 admitting Exhibit 742, which is the
10 organophosphates tape. These are things the state
11 didn't follow up on.

12 THE COURT: Okay.

13 Ms. Polk.

14 MS. POLK: Your Honor, I realize this argument
15 is going on and on. But that argument that the
16 clip is being offered to prove its effect on
17 Detective Diskin would be exactly why the other
18 clips -- where the other information that
19 Detective Diskin was given would be relevant as
20 well, offered to prove its effect on him and the
21 direction of his investigation.

22 It would be fundamentally unfair to allow
23 a clip that talks about something and its effect on
24 the investigation and not allow the state's clip
25 that would talk about -- that would show the jury

1 the effect on Detective Diskin, of the
2 investigation.

3 The Court has always provided context.
4 When you have allowed clips in, you've always
5 allowed for context. And suddenly that clip that
6 they want in is pulling it out of context and
7 giving it undue weight. And that's not what the
8 Court has done throughout this trial.

9 And, finally, the defense -- the state
10 had offered to stipulate to the entire audio of the
11 defendant's words through the week. The defense
12 did not accept that stipulation. We would still
13 make it out there.

14 But the suggestion that somehow we're
15 using defendant's statements unfairly is simply not
16 true when we would accept a stipulation that the
17 entire audio come in.

18 MR. LI: Your Honor, one last point. Sorry.
19 I was reminded, and I think this is absolutely
20 right. Detective Diskin said on -- this is his
21 testimony on the stand -- said on -- that on
22 October 9 he suspected toxicity, not extreme
23 nature.

24 So the state's argument is actually
25 counterfactual to what the evidence adduced at

1 trial was. So it did not actually impact --
2 according to Detective Diskin when he testified --
3 you know -- he said that he was thinking it might
4 be toxicity.

5 MS. POLK: And, Judge, that would just be an
6 example of taking something out of context. The
7 detective talked about that night everybody thought
8 it was toxicity. By the next day, then, he talks
9 to Ted Mercer and he begins to learn the extreme
10 nature of Mr. Ray's events.

11 MR. LI: Actually, the tape is from the night
12 of where -- the tape that Ms. Polk was citing is
13 from the night of the incident. So they were
14 already saying that as well as wood.

15 The state did follow up on the, quote,
16 unquote, extreme nature of the sweat lodge. We've
17 had plenty of evidence about -- you know -- the
18 state's theory of the case. That is, essentially,
19 their entire case. That's what we've been
20 listening to for the last four months.

21 The difference is this is what they were
22 not pursuing, and it is extraordinarily relevant.

23 THE COURT: Was the excerpts -- were the
24 excerpts played as prior inconsistent statements at
25 any time? Not just simply there are times when

1 there are purely -- there are things can be just
2 impeachment. But a prior inconsistent statement
3 carries more -- it's not just impeachment.

4 How did these come in?

5 MR. LI: My recollection, Your Honor, was --
6 and I did Ted Mercer's cross. So my recollection
7 was that I asked him something to the -- I think
8 the state asked him a lot of questions about his
9 prior statements and then, in my view, tried to
10 make it sound as if it was just one of many ideas
11 that he was just sort of throwing out there.

12 And then I -- my recollection is that I
13 asked him a number of questions relating to isn't
14 it true that -- you know -- you were asked what is
15 different, and you immediately responded. And I
16 think he said, I don't remember, or something along
17 those lines. And then we played the tape. But I'd
18 have to look at the record.

19 THE COURT: Which would make it somewhat of a
20 prior inconsistent statement.

21 MR. LI: Yeah. But I think it was also played
22 by Mr. Kelly for Detective Diskin. So, I mean,
23 that's the other point is that we -- I think -- I
24 think Mr. Kelly played it or at least read it. I
25 think we -- I'd have to check the record on that.

1 But that's the point is that we were
2 attempting to show that there were other causes
3 that people didn't follow up on.

4 THE COURT: Okay.

5 Ms. Polk.

6 MS. POLK: Your Honor, I was going to comment
7 that I believe the Court recalls the demeanor of
8 Mr. Mercer. He was cooperative throughout his
9 cross-examination by Mr. Kelly. And I don't
10 remember the reasons for -- I actually don't
11 remember if the audio was played. Maybe Mr. Kelly
12 can --

13 MR. LI: It was me actually. I did
14 Mr. Mercer.

15 MS. POLK: You did Mr. Mercer? Okay.

16 And I don't recall if the audio was
17 played or just portions of the transcript were
18 read.

19 MR. LI: No. It was played.

20 THE COURT: I have a ruling I have to get out
21 I need to start working on or continuing working
22 on. So I do need to wrap up this evening.

23 What time tomorrow, Counsel?

24 MR. KELLY: Judge, may I ask a question? Do
25 you have a preliminary set of final jury

1 instructions? Are we that far along?

2 THE COURT: I -- my JA has prepared a
3 preliminary initial set. It's rather brief,
4 actually. I think it just pretty much has the
5 standards in it. And there were some requests for
6 special instructions.

7 To answer your question, Mr. Kelly, yes.
8 I do have a draft.

9 MR. KELLY: And, Judge, we have two remaining
10 legal issues, at least two, and then settling those
11 jury instructions. So just looking at the length
12 of time that these three exhibits took, I believe
13 it would take most of tomorrow to get through -- at
14 least one time through the preliminaries and some
15 of the other issues we'd like to raise with the
16 Court.

17 THE COURT: Well, this issue we've gone
18 through here has been the theme that comes up when
19 we go through.

20 Ms. Polk.

21 MS. POLK: Your Honor, on the issue of jury
22 instructions, the state is going to be submitting
23 some additional instructions on duty. And I don't
24 believe that we have them ready yet.

25 My question for the Court and counsel

1 would be -- and I'm not sure what these other
2 issues -- legal issues are unless you told me.

3 MR. KELLY: I can tell you --

4 Judge, I don't want to argue. But I
5 believe we have a Brady issue, which I'll address
6 tomorrow, relating to Dawn Sy and the interview
7 with Ms. Polk. And then we also have -- would like
8 to address the propriety of certain statements,
9 which we assume will be made during closing
10 arguments by Ms. Polk, as to her reference to the
11 record. We've premised that on her Rule 20
12 argument both in writing as well as her oral
13 statement. So we'd like to discuss that.

14 We also have some jury instructions,
15 which Ms. Seifter has a preliminary draft, we'd
16 like to discuss. And, of course, we'll have yours
17 and then apparently some from the state.

18 MS. POLK: And the state would request a
19 little bit of time to finalize what we'd like to
20 submit to the Court in terms of our jury
21 instructions. I'll leave it to the Court what --
22 how you want to structure tomorrow.

23 THE COURT: The trial hasn't been completed.
24 So, of course, instructions can still be submitted.
25 I just suggest that the attorneys, the parties, be

1 here by 9:30 tomorrow. And we can take up the
 2 remaining legal issues and get to the instructions
 3 in the afternoon with what we've got.

4 Thank you.

5 (The proceedings concluded.)
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 2) ss. REPORTER'S CERTIFICATE
 3 COUNTY OF YAVAPAI)

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 6 and Certified Shorthand Reporter in California

7 I further certify that these proceedings
 8 were taken in shorthand by me at the time and place
 9 herein set forth, and were thereafter reduced to
 10 typewritten form, and that the foregoing
 11 constitutes a true and correct transcript.

12 I further certify that I am not related
 13 to, employed by, nor of counsel for any of the
 14 parties or attorneys herein, nor otherwise
 15 interested in the result of the within action.

16 In witness whereof, I have affixed my
 17 signature this 3rd day of August, 2011.
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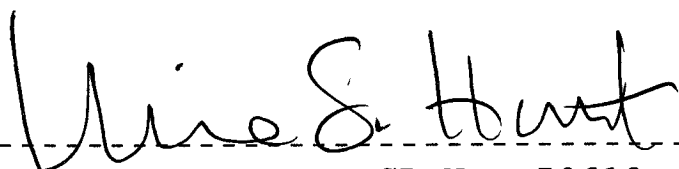
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